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Part 2

EXXON OIL SPILL

HEARINGS

BEFORE THE

NATIONAL OCEAN POLICY STUDY

AND THE

SUBCOMMITTEE ON MERCHANT MARINE

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON

CLEANUP, CONTAINMENT, AND IMPACT OF THE EXXON VALDEZ OIL SPILL AND OIL SPILL PREVENTION AND MARITIME REGULATIONS

PART 2

MAY 10 AND JULY 20, 1989

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EXXON OIL SPILL

WEDNESDAY, MAY 10, 1989

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
NATIONAL OCEAN POLICY STUDY,
Washington, DC.

The committee met at 9:37 a.m. in room SR-253, Russell Senate Office Building, Hon. John Kerry (vice chairman) presiding.

Staff members assigned to this hearing: Mike Nussman, professional staff member; John Graykowski, staff counsel; Bob Eisenbud; and Earl Comstock, minority professional staff members.

OPENING STATEMENT BY SENATOR KERRY

Senator KERRY. The hearing will come to order.

Good morning and welcome to today's hearing to revisit and to update the situation in the Prince William Sound as well as to address the policy implication of the events that have unfolded.

This chart to my left is just a quick way of helping people who are not totally familiar with the topography and geography of Alaska to understand the full implications of the breadth of this particular spill.

If the spill were today on the East Coast, it would range from the southern tip of Massachusetts and Rhode Island to the southern end of Virginia, an extraordinary length of area, obviously, and this is that same area translocated to Prince William Sound in Alaska area.

These charts serve as our reference points. They were prepared by representatives from the State of Alaska. The commissioners are here, and we will talk to them later.

On April 6th this committee met in this room, and we heard at that time from Admiral Yost, Secretary Skinner, and Exxon executive, Laurence Rawls.

At that particular hearing, the Committee Chairman, Senator Hollings, asked Admiral Yost the following question: "No emergency legislation is needed?" And Admiral Yost responded, "No, sir. At least if it were, I think the President would have requested it." And a few minutes later the chairman also inquired, "Is there anything that you need from the Congress?" And Admiral Yost said at that time, "Well, no. The President's budget is coming up here. It is one that I can live with."

To date, as we sit here, less than three miles of beach have been cleaned with roughly 400 miles of beach to be finished by a September 15th deadline. So, with three miles cleaned in 40 days, this committee—and obviously many people in Alaska and elsewhere—

are asking how we will clean up an estimated 400 miles in the 128 days that remain.

Obviously, there are many questions to be asked, and we have a number of panels here to try to answer some of them, but first we must understand how we got to this point.

There was a contingency plan to contain the oil. In fact, there were several plans, to be more precise. And it is my understanding that notwithstanding those plans, not one single gallon of oil was actually contained. Not one gallon.

We also need to understand that, the failed contingency plan by Alyeska originally included a 74,000-barrel spill capacity in terms of containment, not a 240,000-barrel spill.

Clearly, there have been human errors in this process. We are not here to simply bring those up, but I think it is vital as we try to understand what steps we take that there be some acknowledgment of that, and an understanding of precisely how we proceed.

Now, with the lack of containment, that oil has drifted an enormous distance and is soiling beaches and land well beyond the original area anticipated in Prince William Sound.

On May 1st Exxon supplied the Coast Guard with its second plan for shoreline cleanup. Again, Admiral Yost determined that their proposal had been poorly drafted and lacked sufficient details for the massive cleanup.

I think it is safe to say that all of us approach today's hearing with some measure of skepticism. On April 13th the cleanup effort had recovered 20,000 barrels. Since then they have managed to recover an additional 31,000 barrels, and I assume we will hear today that the recovery becomes much more difficult as time passes. One has to acknowledge that, perhaps more has evaporated than has been cleaned up. Nature may have done a far better job at this point than those who are responsible for the clean up.

This Committee would like to establish today a very specific time frame for this cleanup. We would like to have very specific guidelines about what can be expected with respect to that process until September 15th.

Chairman Hollings has requested that the Committee meet again in mid-July to see precisely where we are. We will invite those responsible for the cleanup—the State of Alaska, Exxon, the Coast Guard and others—to report to us at that time where we are with respect to the guidelines which have been laid down. We plan to revisit this issue not only at that hearing but in subsequent hearings.

We do not want to wake up on September 15th and find that we have, for some reason, fallen short, particularly because we did not ask the right questions or because we did not make available those resources that ought to be in order to proceed.

The other thing that we hope to accomplish today is to answer a number of different critical questions with respect to Congressional prerogatives here. These include: What role should the Coast Guard take in terms of contingency planning?

Should oil be shipped in certain parts of the country where there may be a similar risk of a spill without adequate contingency plans in place? Should a spill be federalized from the beginning? What technologies are available to clean up oil spills, and have experts been able to get these technologies to the federal government?

What is the need for new cleanup technologies, and why do Germans and Russians appear to be so far ahead of us with respect to those?

What are the long-term effects of the oil spill on our natural resources?

How many years will it take to understand the full ramifications of the spill, and has there been adequate assessment of the damage to the natural resource and a clear and immediate assertion of the leadership necessary to pursue that assessment?

And, should we pursue drilling in the Arctic National Wildlife Refuge before we have a complete understanding of what impact this may yet have in a weather climate like Alaska?

There are obviously many, many other questions. Let me just say that in the next few days I will be introducing a bill that will put the Coast Guard in charge of oil spill contingency planning because I think it is all too clear that the several contingency plans that existed in the port of Valdez were confusing, inadequate, and unclear regarding who was in charge and what was necessary in order to take the steps to clean up.

I will also be introducing two additional bills regarding the protection of the natural resources and which relate to the evaluation of damage, and I will not describe those further at this time.

Needless to say, it is yet to be accomplished. This is what we have accomplished in 40 days, and this is an estimate of what has been accomplished and what remains to be accomplished.

It is clear that something ain't working, and it is not, Admiral, that we are asserting that your people are not working. They are working. The question is whether or not we have dedicated the resources, whether or not there is, in fact, at this point a plan that will permit us to do what has been set out to be done. Obviously, the task is enormous.

So, without further ado let me first turn to my colleagues and ask if they have opening statements. We are here to find some answers, and we are to try to do the best we can to address some very real and deep-felt frustrations by an awful lot of people. It is my hope that we will not end up as it has been in recent days with Exxon blaming the state and the Coast Guard saying that Exxon is responsible and a group of other people pointing the finger in another direction. Meanwhile, the natural resources continue to suffer, and the job does not get done.

OPENING STATEMENT BY SENATOR PACKWOOD

Senator Packwood. Mr. Chairman, thank you.

First, Admiral, welcome back. I think you have done a whale of a job. We are forever pulling the Coast Guard in too little and too late and saying why did this happen and then putting you in charge after the fact and asking you to guarantee us with 100 percent certainty that nothing can ever go wrong again.

Something is going to go wrong. It may go wrong on your watch. It may go wrong on somebody else's watch. So long as we are going to mine coal, every now and then the coal mines are going to cave in. So long as we build nuclear generating plants, you will have a Chernobyl.

I hope we are not holding out the Russians and the Germans as standards of environmental purity. They are way behind us by and large.

So long as we build dams, we will have problems with fish that we kill, and so long as we use coal, we are going to have acid rain, I guess, or find some way to do it better.

So, if we drill for oil there will occasionally be a mistake, sometimes negligence of the driller, sometimes acts of God. If we ship it in a pipeline, a pipeline can break. If we ship it in a ship, the ship can go aground.

We can put double bottoms on the ship. That will not guarantee you are safe from a disaster.

I think the better question we ought to be asking ourselves is what are the risks we are willing to take? What are the reasonable or even unreasonable precautions we can take to try to avoid disaster and then realize that unless we simply want to pull water out of a well and cook over an open fire, we are going to take some risks to advance mankind, and they will involve greater potentials of disaster than the well going dry or the fire getting out of control.

Each time—I have been in the Senate 20 years—and each time we have a disaster of some kind, whether it is Three Mile Island, which was not nearly as bad as Chernobyl, or some other disaster, Congress meets and passes an ex post facto law and if it involved maritime, we call upon the Coast Guard. And I have got to say, Admiral, you people respond with less money and more admirably than any other branch of the service we have. I take my hat off to you and to your predecessors and to whomever your successors may be. I am proud of you.

Thank you, Mr. Chairman.

Senator KERRY. Senator Burns.

OPENING STATEMENT BY SENATOR BURNS

Senator BURNS. Thank you very much, Mr. Chairman. I want to pass along the same greetings as did my friend from Oregon, Senator Packwood, and prove to you, Admiral Yost, and your fine crew. I got to visit that area up there a couple of weeks ago, and I appreciate everything that you did for me, although we did not make it into Valdez. Mother Nature, who is going to be responsible for cleaning this up, also prevented us from landing in Valdez, but we did get into Cordova and we visited with some folks up there, and I appreciate your hospitality.

I wanted to reiterate that the biggest share of the cleanup will be done by nature itself. Mother Earth has a great capacity to take care of these accidents, although she is slow, but she is thorough and much slower than we mortals want to accept.

But I think the purpose of these hearings should be to determine whether plans are in place for the next one, because it is like Senator Packwood said, as long as we drill, as long as we move oil and transport it, there are risks, and we have to accept those risks. And sometimes we do not always like those risks, but they are a fact of life.

So, I think what should be pointed out here is that it is a good time to look back and reflect on some things that we should have done and some things that we should not have done.

And instead of flapping around here and hollering and screaming, let us take a look at the future and the risks and what we can do to prevent a recurrence.

And I, too, want to congratulate the Coast Guard. I want to congratulate just about everybody up there because it was a very trying time.

And, sure, there were mistakes made, but there are mistakes made right here in the Congress, too, and we do not want to make another one.

So, I am looking forward to hearing your testimony, and I welcome it.

And I think we should set our sights on not just prevention, but a plan in the event that it happens, although prevention is one of the important things that we must look at, too.

Thank you, Mr. Chairman.

Senator **Kerry**. Thank you, Senator Burns.

Senator Breaux.

OPENING STATEMENT BY SENATOR BREAUX

Senator **Breaux**. Thank you very much, Mr. Chairman, and thank you for having the hearing.

This hearing this morning, as I understand it, will look at the resources and the problems of the resources that are affected by the spill.

This afternoon the Merchant Marine Subcommittee will hold a hearing which will focus on the oil transportation issues and the tanker safety issues. I understand, Admiral Yost, you will be back with us and look forward to that session this afternoon.

First of all, this was an avoidable accident. It should not have happened. It was human error. We have a captain who could not drive a car on the streets of New York who was allowed to captain a large—in fact, the largest supertanker in the United States fleet. This has to change.

We have a situation that makes me wonder if it was not the Exxon tanker, suppose it was a foreign-owned tanker with very few assets. Who would be paying for the cleanup. They do not have any money. This has got to change.

The House has passed an oil spill liability fund legislation countless time. The Senate has never yet acted on that legislation. That would take care of oil spills. The fact that it has not been accomplished yet has to change.

This ship had no Alaskan river pilot captaining that ship while it was in Alaskan waters. That is insane, and that has to change.

So, I would point out that there are many things to investigate. The fact that the Coast Guard apparently in licensing a captain does not have access to arrest records to determine the capability and the qualifications of a person in charge of a vessel, if you will, loaded with something that is very, very dangerous, but you cannot even look to see whether this person has been arrested for reckless driving or reckless operation of a ship or anything else. That has to change.

So, I think that if there is any good that will come out of this hearing, it is those of us in the Congress must look at our own house, our own rules and our own legislation. I think you can find plenty of fault there. And hopefully the hearings will indicate that.

Thank you, Mr. Chairman.

Senator **Kerry**. Thank you, Senator Breaux.

Senator Stevens.

OPENING STATEMENT BY SENATOR STEVENS

Senator **Stevens**. Mr. Chairman, I thank you for continuing these hearings, and I am pleased to see our old friend, Admiral Yost, and his people back with us.

Yesterday I introduced two bills which I would urge the members of this committee to take a look at. I am pleased that you, Mr. Chairman, will be introducing legislation also, and I look forward to working with you and being able to meld some of these proposals together and have some action this year on legislation.

The legislation that I have introduced really would have no impact on this incident and accident, this terrible disaster we are reviewing here. It is designed to see what we can do to try to reassure our people that if there is, God forbid, another disaster of this type, we will have a more than even chance of containing it and dealing with it, and making sure that everybody involved is aware that they can happen and must be deal with.

Now, I particularly would call your attention to the bill that has also been referred to the Energy Committee, and I am hopeful that this committee, working together with the Energy Committee, will come up with a joint bill because there is overlapping jurisdiction here—also with Environment and Public Works—and I would hate to get hung up on the jurisdictional boundaries of the three committees, Environment and Public Works, Energy and Natural Resources and this committee, this year.

This body the National Ocean Policy Study, has the capability of dealing with that problem. That is why I mention this legislation, and I hope everyone will see the advantage of having the National Ocean Policy Study designated as being the lead group to review all of these proposals and come forward with participation from all the relevant committees.

NOPS also have participation from Foreign Relations, so I think it is possible for us to take action rather quickly in the Senate if we are willing to do it.

I know that Admiral Yost and his people are with us and want to testify, so I will not take any more time except to say this. I have said it to the Admiral. Some of us have served in wartime, and the service that the Coast Guard is performing in Alaska is under the same conditions. Your people are flying seven days in a row. On at least one occasion, when I flew in Prince William Sound with some of your young helicopter pilots, we never got over 200 feet. That young man was navigating by radar and by the seat of his pants, delivering us on time where we had to be, and I have not seen such dedication since the war.

I think everyone ought to understand the extent of the commitment of the Coast Guard to this effort in Alaska, and it is has just been totally commendable.

I honestly think you ought to have some commendation for everyone involved that really reflects service in the Prince William Sound in this era because I will tell you, in a commercial context you would have to have three times as many people to do what you are doing now.

And whether it is on board the ships or in the aircraft or the crews that were waiting there at midnight to clean those helicopters so they could go back out at six o'clock the next morning, that is real commitment.

And I want you to know Admiral Yost, that Alaskans really appreciate it, and you have our deepest appreciation. You are already an Alaskan, so we will not need to make you an honorary one. You did serve in our state.

Thank you, Mr. Chairman.

[The statement follows:]

OPENING STATEMENT BY SENATOR STEVENS

Mr. Chairman, I would like to take this opportunity to briefly outline some oil spill legislation I introduced yesterday that addresses many of the issues we will discuss here today.

The bill that I introduced, together with the ranking member of the commerce committee, Senator Danforth, and my colleague from Alaska, Senator Murkowski, has provisions to provide immediate funding to the Federal Government in the event of a spill, and would direct the Coast Guard to assume direct control of any spill larger than 1 million barrels.

Further, it will provide the Coast Guard with access to the driving records of individuals seeking commercial licenses, and prohibit the issuance of a license to any individual who have been caught operating a vessel while impaired, has been denied a driver's license, or has had a license suspended or revoked in the past five years.

The bill also includes oil spills in the definition of a major disaster under the Stafford Act, which will make disaster relief mechanisms and funds available to areas impacted by a spill. This provision is particularly important in light of the economic dislocation that is currently taking place in Alaska.

In creating and funding the Prince William Sound oil spill recovery instutute, we hope to address not only the impacts of the present spill on the environment and people, but to develop the ability to prevent and combat spills in arctic and sub-artic environments. The issue of dispersants, which we will hear about today, is one particular area that should be addressed.

This legislation also corrects some of their deficiencies that we have learned about in the existing contingency plans. It requires that the plans be reviewed and technology updated on an annual basis. This was one of the problems we found. When the pipeline started, the tankers going in and out of the sound carried 140,000 barrels. Today they carry 1.2 million. Yet the plans were not upgraded to reflect this increase. The plans, under my bill, will now have the force of law, so that we can be sure they are enforced.

We have also increased the liability limits under the Taps Act from $100 million to $500 million. Again, this reflects the growth in the risk due to the larger tankers. $150 million of the $500 million will be available to the government immediately, so that we don't have to wait for the funds to take action.

Finally, the bill includes many other provisions, some of which we will discuss futher in this afternoon's merchant marine subcommittee hearing, such as a light on bligh reef, A study of tanker size and construction, and a study of positive control of tankers by the Coast Guard.

I look forward to the hearings Mr. Chairman, and I hope that today's witnesses will address aspects of this bill.

Senator **KERRY**. Thank you, Senator Stevens.

Senator Bryan.

OPENING STATEMENT BY SENATOR BRYAN

Senator **Bryan**. Thank you very much, Mr. Chairman. Let me add my note of congratulations to you as well for holding these hearings. First, I would just like to make a couple of observations.

On the last occasion that we had the Coast Guard before us it was rather clear to me that no one was clearly in charge. I hope that during the course of the colloquy that we might have some comment from the witnesses who are going to testify today on that aspect.

The second thing I think would be terribly helpful from my perspective to hear in addition to any other comments is that not too many weeks after the tragedy in Prince William Sound, we had another episode off the coast of Washington State where there was a failure, as I understand it, of the propulsion system on a major tanker. The tanker was adrift.

I am not suggesting any culpability, Admiral, on the part of the Coast Guard. But I guess I would like to know who is responsible overall for coordinating these types of situations and who reviews the contingency plans. In general, I think that it is conceded by all that those plans were less than adequate with respect to the Alaskan cleanup.

Mr. Chairman, I commend you for holding this hearing today. The tragic oil spill off the coast of Alaska—over six weeks ago—continues to raise a number of troubling qustions. Last month this committee heard from Administration and other witnesses about the initial and other witnesses about the initial efforts to contain and minimize the environmental and economic harm caused by the spill.

One thing seemed eminently clear during that hearing last month—no one was in charge. And, as we feared, due to the lack of leadership the containment effort faced one obstacle after another. According to some, the clean up effort has been a complete failure. I understand that only 20% of the spilled oil has been recovered and less than 2 miles of the 400 miles of affected coastline has been cleaned to date. The recidents of Alaska and of the country expect—and deserve—better.

Today I hope that some of the questions that were left unanswered in the previous hearing are answered today. Who has finally coordinated the effort? What contribution, if any, did the Alyeska consortium response team make? How far do we still have to go to return the Price William Sound and the Alaskan coastline to its natural beauty? These are just a few of the questions that are being asked not only here in Congress and by Americans throughout the country.

The second part of the hearing I believe will help us focus constructively on the work that lies ahead. We must examine the critical issue of oil tanker safety and I look forward to hearing testimony from our colleague Senator Adams on his legislation to improve tanker safety. We all know the axiom that "those who do not learn the lessons of history are doomed to repeat it." If we do not learn from this tragic accident, I fear that someday we may repeat it.

Senator **Kerry**. Thank you, Senator Bryan.

Senator Lott.

OPENING STATEMENT BY SENATOR LOTT

Senator LOTT. Thank you, Mr. Chairman.

I am anxious to hear the testimony, so I will be very brief.

I only wish to say, Admiral Yost, that I, too, join Senator Stevens in commending you personally for the way you have been working on this problem.

And we are anxious to hear your recommendations and also want to say that we appreciate what the Coast Guard has done as a whole since this accident.

But now we are anxious to see what we can do maybe in the future with the Coast Guard to try to help prevent this sort of thing from even happening.

Thank you, Mr. Chairman.

Senator KERRY. Senator Gore?

OPENING STATEMENT BY SENATOR GORE

Senator GORE. Mr. Chairman, six weeks ago, the worst oil spill in our nation's history polluted the pristine waters of Prince William Sound. As of today, the cleanup of the over 1000 miles of oil-saturated coastline is still only minimal. Today, we are once again left with apologies for an environmental disaster that did not have to happen.

Many of us have heeded the call to be better stewards of the atmosphere, the water, and the land. We have learned that the environment is not just an infinite void into which we can discharge our pollution. If we continue to do so, we threaten the delicate balance that is the planet's ability to support life.

The oil which has killed wildlife and fish of Prince William Sound, and destroyed the livelihoods of many in the surrounding communities, was probably destined for our vehicles. Once burned, its emissions would have been dumped into our environment in another form, polluting the air in our cities and contributing to changing the climate of our planet.

We have heard calls for global cooperation to protect the world's environment. But that protection must begin here at home. Our cars and trucks are responsible for much of the air pollution choking our cities, and a large portion of the carbon dioxide emissions of our nation.

One of the first steps to demonstrate U.S. leadership in protecting the global environment must be to increase the efficiency of our transportation sector, in which each America consumes more energy than a person in almost any other country consumes in all economic sectors combined. We do not need to speed development of environmentally sensitive areas to produce more oil for our vehicles; we can "produce" that oil in an environmentally and economically sound way, through increased vehicle fuel efficiency.

We held hearings on vehicle fuel efficiency here in the Commerce Committee just last week. I have already introduced legislation—which was co-sponsored by several members of this Committee—to improve the efficiency standards of our vehicles. And in the weeks and months to come, I intend to play a very active role in addressing the twin problems of our transportation sector: a growing dependence on foreign oil, and growing emissions of greenhouse gases and urban air pollutants. We must minimize our consumption of oil in order to minimize the chances of a future disaster like the one that has hit Valdez, and in order to maximize our nation's energy and economic security. Clearly, improvements in vehicle fuel efficiency are long overdue, and they make sense for economic, environmental, and national security reasons.

And as we address this issue, we must realize that burning less fuel in our vehicles means not only driving more efficient vehicles; it also means stemming growth in the number of miles we drive. The Federal Highway Administration projects that in urban areas, the total number of miles traveled by vehicles will increase 50% to 80% by the year 2010. New vehicle fuel efficiency standards, which my legislation proposes, are the first component of reducing the fuel consumed by our vehicles. But a re-thinking of urban and suburban transportation must be the second component.

Just as new commitments to clean up the environment were being sounded around the world, just as new international initiatives were being forged to protect our planet, eleven million gallons of crude oil pierced an ecological treasure. the disaster in Prince William Sound must be a turning point. If we are to leave our children a legacy of care and stewardship, we must take responsibility for the entire planet. Each of us must find within ourselves the foresight and the courage to confront this serious global challenge.

Senator KERRY. The Chairman, Senator Hollings has a prior commitment but would like to have his statement included in the record. I also have statements from Senators Adams and Pressler that I will include.

[The statements follow:]

OPENING STATEMENT BY THE CHAIRMAN

Good morning. We have convened this Committee for a second hearing on the recent oil spill by the tanker *Exxon Valdez* in Prince William Sound in Alaska. Our interests today are directed toward evaluating the current status of cleanup operations, determining the capability to contain such enormous spills, and assessing the impact of the spill on the region's invaluable natural resources.

On March 24 of this year the tanker *Exxon Valdez* struck a reef about 25 miles out of the port in Valdez, Alaska, spilling over 11 million gallons of oil into the pristine waters of Prince William Sound. There was a belated attempt to contain the oil that proved unsuccessful. Since that day the oil has spread over more than 3000 square miles in the Sound and the Gulf of Alaska, blackening island beaches, killing plants and animals, and jeopardizing much of the region's economic stability.

Though the total costs of the damage from the spill cannot be pinpointed at this time, it is safe to estimate that the cost of the cleanup and restoration activities will approach $1 billion. The cost of cleaning up this mess is indeterminable primarily because scientists studying this tragedy are not sure of the extent of the devastation to the wildlife there. Although larger spills have occurred, this disaster is unique because it is in a body of water ringed by islands and relatively isolated from the open sea. The island enclosure in Prince William Sound has delayed dissipation of the spill, exposing animals to the oil for an extended time and allowing the oil to soak into the beaches and sediments.

Recently, Exxon presented a revised plan for its cleanup which Coast Guard Commandant Admiral Paul Yost called "poorly drafted and lacking specifics." According to the plan, Exxon is seeking permission to incinerate 20 tons of dead animals, 3150 tons of oily pads, rags and clothes, 250 tons of oiled logs, and 3650 tons of used booms. Incineration, however, would circumvent Alaskan and federal environmental laws. Furthermore, in its plan Exxon insists that it can complete the cleanup before cold weather arrives around September 15. Yet, they have lowered the estiamtes of the workers needed for the cleanup, and they concede that poor weather is likely to reduce by one-half the number of days workers will have available for the task. The company insists their timetable is realistic even though the plan leaves the cleanup of 191 miles of "moderately soiled" shoreline to wave action and nature.

Is the immensity of this cleanup too overwhelming for human effort at this point? Exxon seems to think so. The magnitude of this spill and the ability to contain and clean up the spill are stark reminders that this must never happen again.

The conclusion we must draw from this episode is that we are grossly unprepared for disasters of this scale—natural or human. I quote the Chief of the Coast Guard Marine Safety Division who acknowledged that "federal and state contingency plans were inadequate to contain the oil spill from the *Exxon Valdez.*" This is not the first oil spill to occur; this is not the largest to ever occur. However, no one had prepared for it. I hope that this will never happen again, but if it does, our preparation must be better. As I stated previously, this is a case of the ancient maxim that those who do not learn from the mistakes of the past are condemned to repeat them.

Finally, we must continue to assess the extent of the damage to the precious natural resources in the region. The most visible short-term effect of the spill is on the area's wildlife. We must monitor the recovery of all species affected by this catastrophe, and we must make certain that such recovery occurs to the fullest extent possible.

I want to thank Senator Kerry, Vice Chairman of the National Ocean Policy Study, for conducting this hearing. I call on all my colleagues to join me in a thorough review of the *Exxon Valdez* experience. We must work together to learn the expensive but valuable lessons of this historic tragedy.

Opening Statement by Senator Adams

First, I would like to commend the National Ocean Policy Study Subcommittee for holding this hearing this morning. In the last decade since the Tanker Safety Act was passed in 1978, we in Congress have not paid much attention to the issues of tanker safety regulation and oil spill contingency response planning. We thought we had a satisfactory regulatory regime in place, that major spills were unlikely, and that if a spill did occur it could be quickly cleaned up.

The recent spill in Prince William Sound has shown that our confidence was misplaced. Clearly, we must now reexamine out regulatory regime in light of the Exxon Valdez disaster, and apply those hard lessons to efforts to protect other maritime areas vulnerable to oil spills. The message of the Valdez spill to all of us from states with irreplaceable marine resources is that it can happen here.

Recently, therefore, I have been examining the existing regime for regulation of tanker traffic in Puget Sound. This is a matter of deep personal interest. As Secretary of Transportation in President Carter's Administration, I promulgated regulations that banned supertankers from Puget Sound. The results of this reexamination have been very disturbing. As a result I recently introduced the Puget Sound Tanker Safety Act of 1989.

This legislation has three main sections. One section would require all new tankers over 20,000 deadweight tons carrying oil in U.S. waters to be equipped with double hulls. I will be discussing this section of the bill before the Merchant Marine Subcommittee later today.

The other two sections are of more direct interest to this committee. As drafted, they apply only to Puget Sound. They may, however, be equally applicable to other parts of the country.

INDIVIDUALIZED VESSEL SPILL CONTROL PLANS

The bill requires the Coast Guard to require all vessels carrying oil as cargo or transferring oil in Puget Sound to have individualized vessel spill control plans. These plans should address what vessels can do to minimize the amount of any spill, effect immediate repairs if possible, take initial steps to contain the spill in the water, and immediately notify the appropriate authorities. The Coast Guard would be required to determine what equipment was necessary to implement these plans, and require vessels to carry that equipment. The Coast Guard would also be required to conduct annual inspections to monitor compliance with these rules.

These are not burdensome requirements. Instead they are simple common sense precautions, and I'm sure many people would be surprised to find that they are not already required by law. I suspect that many operators are already following most of the practices that would be required by this bill. It is imperative, however, that all operators take these precautions, and that they do so as prescribed by standardized regulations implemented by the Coast Guard in accordance with Federal law.

CONTINGENCY PLAN RESPONSE

This section of the bill is designed to require Federal oversight and approval of oil spill contingency response planning in Puget Sound. The Coast Guard has told me there is no Federal provision governing how much of a spill one must be able to clean up when a vessel is transiting an area such as Puget Sound. This is a glaring ommission in our regulatory regime, and must be corrected.

The bill requires owners/operators of vessels carrying oil or transferring oil in Puget Sound, and owners/operators of oil refining, producing, and transportation facilities in Puget Sound, to submit contingency plans to the Coast Guard for approval. The Coast Guard could not approve plans that did not have sufficient equipment available to deal with a maximum probable spill from the vessel or facility in question. Acquisition of the equipment would be the responsibility of the owner/operator.

Finally, the bill ensures that the public will be better informed about the state of oil spill contingency response planning in Puget Sound. All approved plans must be made available to the public, and regular drills are required.

The bill encourages obligations under this section to be met through cooperative arrangments. There is such an organization in Puget Sound, Clean Sound Co-Op, which is a consortium of oil companies operating in that area. The Coast Guard, has told me however, that the current capabilities of that organization would be "overwhelmed" by a significant spill.

Companies that profit from the production, refining, and transportation of oil should have the responsibility of ensuring that their activities do not endanger precious maritime environments. For too long we have relied on industry assurances that oil spills can be contained. It has taken a disaster of the magnitude of the Exxon Valdez spill to show how empty those promises have been. The federal government must step in, set standards for the development of these plans, and require companies to have enough equipment in place to deal with a major spill.

Again, I encourage members of this Committee to consider this legislation carefully. While it has been written to apply only to Puget Sound, I feel these are sound, common sense proposals that may be applicable to other areas of the country as well. I look forward to working with the Committee towards passage of this legislation. Thank you.

OPENING STATEMENT BY SENATOR PRESSLER

Mr. Chairman, thank you for holding this hearing to further investigate an event that has captured the concern of the nation. News of the *Exxon Valdez* grounding and oil spill disaster have made the headlines for weeks now, but the public's demand for substantive explanations of inadequate contingency plans and clean-up delays have not been forthcoming.

I know that the people of South Dakota feel deeply for the people of Alaska, who have endured and will continue to endure calamitous encroachment of their environment by the spilled oil. We South Dakotans cherish the fact that our state's land, water, and air are free of the pollution so prevalent in other areas of the United States. We therefore can identify with the feelings of Alaskans who have witnessed their pristine homeland spoiled by this tragedy. It is my sincere hope that today's witnesses are able to provide satisfactory answers to questions on the oil spill and the resulting environmental damage that rightly are being asked by Americans across the country.

Another question asked by many South Dakotans concerns the relationship between the rise in gasoline prices across the country and the Valdez spill. Since the spill occurred, South Dakota consumers have been faced with sharply increased gasoline prices, even though Gulf Coast sources—not Alaskan sources—supply most of the gasoline shipped into South Dakota. I have asked Attorney General Thornburgh to investigate this matter, but would appreciate receiving satisfactory answers from industry witnesses during today's hearing.

In conclusion, I would like to take this opportunity to thank Admiral Yost and the entire Coast Guard operation for its dedicated efforts in the clean-up endeavor.

Senator **KERRY**. Let me comment with respect to a couple of comments made. I want to make it very clear, my comments—my opening comments in showing the smallness of the cleanup relative to the task, and I have made this very clear I think, are in no way meant to imply that Admiral Yost and the Coast Guard have not done everything in their power and so forth. The question is, has an unrealistic goal been set? The question is, can it be done? The question is, do they have the resources necessary to do it and have people provided them with it?

As the Admiral knows, I am a fan of his. He was my commanding officer in Vietnam. But look—it is not enough for us to sit here and say, if we want oil and we want fuel that we have to take risks. Everybody knows we have to take risks.

Congress voted to take risks, but the risks were based upon assumptions that a plan was available there and that was part of the risk. The risk was measured against the fact of a contingency plan for cleanup and if we do not sit here and try to understand whatever it is we do now in the context of that, we are not going to come up with any proper measurement of risk against the future balancing choices we have to make.

So all I am trying to do is guarantee that nobody is blowing smoke at anybody, that there is no misleading here—inadvertent, indirect or otherwise, and that we have to lay this on the table. If we cannot clean it up for X number of reasons, this is the day to say so and we ought to maybe reevaluate today what is possible to accomplish or what—if Senator Stevens said you need three times the personnel to do it, is that what is necessary?

But I think it is very important to the American people and particularly important for the people in Alaska, not to have us here in Washington somehow fake it so that we mislead people and then later come back and says well, why did we do this? Why did we not set it up differently and so forth.

I point out—and all the members have been given this as well as members of the press—the wind speed was 5 knots for the first 55 hours or so in a chronology of the first 72 hours. Wind suitable for skimmers is less than 10 knots, so there was a good 50 hour period where skimmers could have worked.

The actual cleanup versus the contingency plan cleanup shows that according to the plan—the tanker went aground at zero hour. According to the plan there was supposed to be the arrival of a boom and three skimmers which could skim 1400 barrels per hour. Then, there was supposed to be arrival of a tanker for off-loading at the 12 hour mark. There was supposed to be an arrival of six more skimmers at 4,000 barrels per hour capacity at the 12 hour mark.

The actual arrival of the tanker for off-loading was at the 14 hour mark. The actual arrival of the boom and two skimmers was at the 16 hour mark and the actual recovery was 3,000 versus what the plan showed could be done—240,000.

So, if we are going to measure risk we have got to be real about it and I think we have got to ask why those things happened and why the diminishment of anticipated return occurred.

Admiral, thank you for your patience. I join in congratulating you. Your men are working around the clock. You have got an impossible task, I think and I do not want to sit here and ask you to do more than you can do. So I hope we can get some reality in the process.

Admiral Yost.

STATEMENT OF ADM. PAUL A. YOST, COMMANDANT, U.S. COAST GUARD, DEPARTMENT OF TRANSPORTATION; ACCOMPANIED BY REAR ADMIRAL NELSON; AND CAPTAIN LARRABEE

Admiral YOST. Thank you very much, Mr. Chairman. May I ask that my statement be put in the record and I will summarize.

Senator KERRY. Without objection, your full statement will be placed in the record.

Admiral YOST. I very much appreciate the kind remarks of the members of the Committee concerning the United States Coast Guard and the men and women who have been working so hard up in Prince William Sound over the last six weeks.

I want to bring to you not only my personal greetings but my assurance of the President's personal commitment as well as the Vice President's commitment—and the Vice President was on scene last week with me out on the beaches—to cleanup the oil spill and minimize the damage to the environment.

By the way, Senator Stevens, with the Vice President, we had some of the same flying weather that you did. I remember being very apprehensive with less than 100 foot of ceiling, picking our way among those mountains thinking to myself, "This is crazy. I have got the Vice President in this airplane and we may not make it." So the weather there is very, very demanding of pilots. I was very proud of that young pilot that took us through that weather, but I doubted somewhat my own wisdom in asking him to do so.

The President has asked me to provide a personal oversight of the cleanup. He has directed that my Secretary—Secretary Sam Skinner—provide overall Federal coordination for this cleanup.

Today is a key day in the spill. Yesterday, Secretary Skinner and I spent several hours working carefully with Mr. Rawl and Mr. Stevens of Exxon—Mr. Rawl being Chairman of the Board, Mr. Stevens being President of Exxon U.S.A.—to review their May 1, 1989 cleanup plan amendment. We have responded to that plan with a letter that I would be very glad to furnish the Committee, dated 9 May, 1989.

We need to understand the art of the possible and as you, Mr. Chairman, have said, get across to the American people and the United States Senate what our goals are and be sure that those goals are realistic.

I wonder if you could have your staff member again hold up that chart that showed just a little bit of red on one end and a lot of blue on the other. That would also make a very good bar chart showing the difficulty of getting oil out of the water, versus the difficulty of pumping it into a ship. The red would show the difficulty of pumping 240,000 barrels into a ship, and the blue would show the difficulty of getting the oil out once it is dumped in the water. That would describe our problem very clearly.

In every spill that I have been associated with—every major spill—and I have been associated with three of the biggest spills in the United States: the IXTOC I Mexican spill that impacted on our coast, the Burma Agate which spilled some 14 million gallons in the water in the Gulf Coast and this spill, which put 11 million gallons in the water—certain things seem to remain constant. We get somewhere between 15 and 20 percent recovery from the water.

The rest of it inevitably goes up on the beach and requires a major beach cleanup.

By going up on the beach, I mean that what does not evaporate goes up on the beach. We only recover from the water somewhere between 15 and 20 percent. That is about where we are right now with the Exxon spill. I do not expect that we are going to get very much more out of the water. Another thing that remains fairly constant is that when you have a spill of this unparalleled scope, a lot more goes on the beach than you ever skim or recover out of the water.

The Coast Guard, through me, will stay on top of the effort. I have placed my senior field commander, Vice Admiral Robbins personally in charge at the scene. He has been on scene for six weeks, without any relief, night and day.

Even if the story should leave the front pages of the media, rest assured Mr. Chairman that I will be here, and I will stay committed. We will insist on all that is humanly possible—humanly possible—to clean Prince William Sound and the Gulf of Alaska beaches by the end of the summer. Somebody asked, who is in charge? I am in charge. The buck stops here, as Harry Truman would say.

Many investigations are on-going to determine the culpability or blame. Our job now is to oversee the cleanup of the spill, and I plan to concentrate on that. I think the assignment of the blame will work itself out as these investigations wind their way through the process.

As you know, within minutes of the spill I called the National Transportation Safety Board and asked them to do the investigation. They are known for two things: one, a very thorough investigation and two, for not being very quick in producing that investigation. Normally I would expect the better part of a year to be taken up before we get those results.

I think we need to learn from experience. We need to learn what direction we as a nation need to go and what direction we can go. We need to look at licensing. We need to look at the whole marine transportation system. We need to look at the contingency plans, and we need to make changes, including legislative proposals, as we learn. I think we need to be very careful, as we learn, that we do not grab onto something that looks like a panacea but really is not.

It is interesting to me the suggestions that I hear within the Congress, that if we need more money that it will certainly be forthcoming, when every year at this time, Mr. Chairman, I feel like I am fighting for my life within the congressional system to get just the President's budget.

I have spent an inordinate amount of time on the 302(a) allocations which are not particularly favorable to a good budget for the Coast Guard. I am scared to death about the 302(b) allocations. I would encourage every member of this Committee to get deeply involved in those 302(b) allocations, in the budget process so that there is some opportunity for my appropriations chairman, Senator Frank Lautenberg, here, and Mr. Bill Lehman in the House—some fighting chance—to get me the President's budget, let alone the kinds of money that are implied by various senators here this morning, when I hear that whatever we need we are going to get.

I fear that budget process because it has been a very divisive process. In the past, it has been only with the great effort of the Senator from Alaska and some others that the Coast Guard has stayed afloat at all in the budget process.

With that, sir, I am ready for your questions.

[The statement and questions and answers follow:]

STATEMENT OF ADM. PAUL A. YOST, U.S. COAST GUARD, DEPARTMENT OF TRANSPORTATION

Thank you very much and good morning Mr. Chairman.

Last year, the Coast Guard responded to about 7,500 oil spills in the maritime regions of the United States. This number is down from about 13,000 in 1984. Since the enactment of the Federal Water Quality Improvement Act of 1970, we have experienced several major incidents. None has been as large or damaging to our environment as the Exxon Valdez spill. There is little consolation in the fact that through the remarkable efforts of the Coast Guard strike team working with Exxon personnel, 43 million of the vessel's 53 million gallons of cargo were safely transferred to lightering vessels allowing the Exxon Valdez to be successfully refloated. The approximately 11 million gallons remaining spilled into the pristine waters of Prince William sound and fouled over 350 miles of shoreline.

We are now engaged in an unprecedented effort to clean up that spill. Exxon assumed full responsibility early in the incident and has continued to fund the efforts of contractors, as well as state and federal resources. The Coast Guard alone has about 1000 personnel, 9 ships, up to 10 aircraft, and a variety of equipment on-scene on a daily basis. Cleanup efforts have been hampered by the remoteness of the area, the logistical problems created by long distances to transport personnel and equipment to the scene, weather and very persistent oil. Currently, most of the remaining oil has been washed onshore. We are still skimming some oil. But it is too viscous and debris-laden for the cleanup to be considered effective. We are quickly shifting our efforts to beach cleanup, especially in the seal and sea lion haul out areas so that they will be clean prior to the arrival of the females coming ashore to give birth. Cleanup will continue at a high pace until late September when the anticipated arrival of heavy weather will close the door on further cleanup. It is imperative that a maximum effort be sustained during the next five months.

I would like now to address the National system that is in effect for responding to oil and hazardous material spills and procedures for containing and cleaning up oil spills. Finally, I will address, specifically, the cleanup efforts that are presently taking place in Valdez.

In 1972, the United States developed a National Oil and Hazardous Substance Spill Response System, based on statute and regulation, which relies on the maintenance of comprehensive contingency plans, and functions through an effective network of interagency relationships. This Federal system is described in regulation in the National Oil and Hazardous Substances Pollution Contingency plan. It establishes three organizational levels: The national response teams, regional response teams, and on-scene coordinators. The national response team, consisting of 14 Federal agencies, is primarily a national planning, policy and coordinating body. There are 13 regional response teams throughout the United States and its territories. Each regional response team maintains its own regional contingency plan, and has state, territory and federal government representation. Like the national response team, the regional teams are planning, policy and coordinating bodies. The on-scene coordinator is a Federal official predesignated by the environmental protection agency for inland areas and by the Coast Guard for coastal areas. The on-scene coordinator coordinates all federal containment, removal, and disposal efforts and resources during an incident, and relies very heavily upon the contingency planning efforts within the community.

The ultimate responsibility for cleaning up an oil spill lies with the party responsible for spilling the oil, and rightly so. The federal on-scene coordinator is required to monitor those response actions to ensure that the spill is cleaned up in an acceptable and timely manner and that damage to the environment is minimized. If the responsible party is unable or unwilling to respond, or if the response effort is unsatisfactory or beyond the capability of the responsible party, then the on-scene coordinator has the authority to intervene and take over the cleanup efforts.

Determination of satisfactory cleanup methods include considerations of both timeliness and adequacy of the containment and removal operations necessary to control the spread of the discharge and mitigate the environmental effect. When appropriate, the on-scene coordinator will guide the discharger on the preferred course of action, as is presently being done with the oil spill in Valdez. Cleanup procedures are usually broken down into four phases:

Phase 1 involving discovery and notification;

Phase 2 involving conducting a preliminary assessment;

Phase 3 involving containment, countermeasures, cleanup and disposal; and

Phase 4 involving documentation of the spill and possible cost recovery actions.

I would like to discuss with you some of the phase 3 operations that normally take place during an oil spill. A major part of any oil spill cleanup involves containing and physical removal of the oil from the environment. Weather and other circumstances permitting, every effort should be made to collect the oil as close to the source of the spill as possible. Even when oil is spreading on a water surface, collection and removal is preferable to beach cleanup.

In the case of a vessel grounding, as was the case with the Exxon Valdez, offloading the vessel's remaining cargo can be a crucial part of the cleanup effort. One of our primary concerns during the Valdez incident was the possibility of losing not only the remaining cargo on board the Exxon Valdez, but the vessel itself. Fortunately for all parties, the Coast Guard National Strike Force was able to successfully offload the remaining cargo within a few days after the vessel grounded.

Cleanup techniques on water are essentially mechanical techniques or chemical techniques. The containment of floating oil for subsequent recovery or its diversion away from sensitive areas calls for use of some form of barrier. A floating boom is simply a mechanical barrier which stands above and below the water surface and is designed to stop or divert the flow of oil. Booms are generally used for oil collection, deflection, containment and protection.

Many different types of oil barriers are in use today. These include floating booms, netting systems, sorbent booms, bubble barriers and chemical barriers. Selection of the most appropriate barrier depends upon the particular conditions as well as barrier availability. Boom deployment is not a simple operation. It is essential that the deployment be carried out in a logical and well ordered manner, so that the oil is contained or diverted and so that the boom is not damaged during deployment.

Following the containment of an oil spill, the next step in the cleanup operation is the recovery of oil from the water's surface. In most instances, the containment and recovery phases of an oil spill cleanup program proceed simultaneously. The rapid recovery of contained oil is vital to prevent its escape and subsequent contamination of other areas. Recovery can be achieved using skimmers, pumps, sorbents, manual techniques and non-specialized equipment, such as vacuum trucks. If the oil cannot be contained at sea and impacts the shoreline, then a lengthy, tedious, and labor intensive cleanup of the beaches becomes necessary. During a beach cleanup, great emphasis is placed on causing as little additional environmental damage as possible.

Equipment limitations in oil spill containment and recovery play an essential role in every cleanup operation. Performance is greatly affected by wind, waves, currents, location of the spilled oil, viscosity of the oil, and the amount of debris in the oil.

Having just returned from a lengthy stay in Alaska, I am encouraged by the contribution being made by the men and women of our military forces and a myriad of federal agencies who are working vigorously in the cleanup effort. Yet, the task is enormous. This spill is one of the most serious economic and environmental calamities this nation has ever faced. Seeing the fouled shoreline and beaches and the devastating effect on land and marine wildlife removes any doubt of the severity of this spill.

On balance, the federal government has moved more quickly and boldly than has generally been acknowledged by the media and has been particularly effective since mid-April. We are working with the administration and Congress to strengthen our laws, regulations and operating procedures so we can minimize the possibility of a spill of this magnitude from happening again.

Let me give you a brief overview of the progress we're making in Alaska. We are getting excellent cooperation from all of the agencies involved in trying to minimize this spill's potentially devastating effects. The Department of Defense (DOD) has mobilized quickly, deploying 4 major vessels, over 25 aircraft and a considerable number and variety of pollution response equipment, spare parts and personnel. DOD has also set up an oil spill computer assisted recovery (OSCAR) network to provide real time graphic displays of areas impacted by the spill, and showing the locations of afloat resources and environmentally sensitive areas.

I remain very concerned with the optimistic timetable of Exxon's shoreline cleanup execution plan. The plan identifies well over 300 miles of impacted shoreline which must be cleaned before the relatively mild summer weather ends in mid-September. There is virtually no allowance in the Exxon plan for extended periods of foul weather, equipment unavailablity or logistics problems associated with the oil-soaked rocky terrain. Therefore, we are intensifying the already significant federal effort and actively working with Exxon to ensure that the necessary resources are brought to bear to accomplish the cleanup on schedule.

Despite some media claims to the contrary, I cannot fault Exxon on the sincerity of their commitment to clean up their own spill. To date, they have deployed approximately 70 miles of boom, 55 skimmers, 460 support vessels and over 3000 personnel. Nevertheless, it is evident from the shoreline cleanup progress so far that they will have to commit even more resources to meet the fall completion date.

We have received offers of assistance from several foreign governments. We are using cleanup equipment from Canada, France and the United Kingdom. And of course, you have seen the news account sof the large Soviet skimmer vessel which has been operating in the Gulf of Alaska since April 19th.

During daily cleanup operations, the Coast Guard deploys 7 major vessels, more than 20 aircraft, a variety of small support vessels and equipment, and over 1000 personnel. We also have thousands of people in staff support jobs around the country working to minimize the direct and indirect implications of this spill.

Finally, I would like to briefly mention some of the initiatives that are taking place as a result of the Valdez oil spill. The President directed Secretary Skinner and EPA administrator Reilly to conduct an assessment of the overall response efforts, contingency planning and lessons learned in the Valdez case. The study that the President directed should be completed very soon. The President has also ordered a nationwide review of all oil spill contingency plans. This will include a comprehensive risk analysis within each port area, with the intention of identifying shortfalls in resources and plans. Another initiative involves the development of an overall national research and development plan for oil and hazardous substance spill prevention and response. In addition, I have taken steps to review the need for additional authority under the Clean Water Act and possibly the Port and Tanker Safety Act. This study will look at existing law, with an eye toward changes such as the authority to direct a spiller to perform cleanup actions rather than just monitoring the effort. I believe it is also necessary to review the standby and availability of the Coast Guard's national strike force and its component parts.

We look forward to working with this committee to strengthen our laws, regulations and operating procedures with the hopes of preventing a spill of this magnitude from happening again.

I will be pleased to respond to your questions.

U.S. Department of Transportation
United States Coast Guard

Commandant
United States Coast Guard

Washington, D.C. 20593-0001
Staff Symbol: G-CC/104
Phone: 366-4280

OCT 13 1989
5730

The Honorable Ernest F. Hollings
Chairman, Committee on Commerce, Science
and Transportation
United States Senate
Washington, DC 20510-6125

Dear Mr. Chairman:

The attached Questions and Answers for the Record are provided pursuant to your Committee's hearing on 10 May 1989, concerning the Containment of Oil Spill in Valdez, Alaska, submitted as per your request. All responses have been reviewed and approved, as required by the Department of Transportation and the Office of Management and Budget.

Please do not hesitate to call if I can provide further assistance.

Sincerely,

Thomas J. Schaeffer,
Captain, U. S. Coast Guard
Chief, Congressional Affairs Staff
By direction of the Commandant

QUESTIONS SUBMITTED BY SENATOR HOLLINGS
COMMERCE, SCIENCE, AND TRANSPORTATION COMMITTEE

SENATOR HOLLINGS: I understand that you characterized the May 1 Exxon Shoreline Cleanup Plan as badly drafted and lacking details. Have you received a redraft of Exxon's plan? Is it adequate?

ANSWER: The May 1 plan submitted by Exxon described a sound approach but it raised concerns that the resources listed would be insufficient to clean the impacted shoreline in the alloted time. Also, the May 1 plan was remiss by failing to address cleanup of impacted areas outside of Prince William Sound.

On May 24th, Exxon submitted a supplement to the May 1 plan which indicated the resources devoted to shoreline cleanup would be significantly increased and addressed cleanup in the areas outside of Prince William Sound. The May 1 plan with the May 24 supplement was deemed adequate.

SENATOR HOLLINGS: The May 1 Exxon plan called for all the cleanup to be completed by September 15. Can we reasonably expect all of the work to be done by September?
ANSWER: Although Exxon is increasing their efforts and crews as the summer continues, it is unlikely that the task will be completed by the initial September 15 deadline. It is expected that all impacted beaches will receive some form of primary treatment.

SENATOR HOLLINGS: The Alyeska plan called for sufficient equipment to contain a spill of around 74,000 barrels of oil. Yet we didn't manage to contain a drop of oil. Clearly there were some human factors involved. But it also seems to me that our equipment wasn't up to the task either. Could you comment?
ANSWER: The Alyeska contingency plan, mandated by the state of Alaska, called for a response within five hours. The primary reason Alyeska was unable to respond within this time-frame was that the barge used to transport the equipment was in a shipyard undergoing repairs. The barge and equipment arrived on scene approximately 12 hours after the incident.

Two aspects of this case, the spill occurred at night and most of the oil was spilled in the first 4-5 hours, would have significantly hampered containment efforts even if equipment was on scene immediately. Darkness would have made it very difficult to locate the leading edge of the spill. The amount spilled in the first 4-5 hours resulted in an oil flow that would have been unable to be contained by the boom that was available at Alyeska (11,500 feet of containment boom and 3,700 feet of absorbent boom,). Most of the oil would have flowed over or under the boom and moved in a southwesterly direction.

SENATOR HOLLINGS: Is our equipment state-of-the-art?
ANSWER: There have been few significant improvements in spill containment and recovery technology since the late 1970's. The equipment used by Alyeska and the equipment brought in from outside sources is considered state-of-the-art. None of the equipment was able to work at full capacity because of sea conditions, weather conditions and weathering of the oil. The oil became weathered and viscous quickly which significantly impaired recovery efforts.

SENATOR HOLLINGS: Why don't you have more?
ANSWER: The responsibility for clean up of spilled oil rests with the spiller. Accordingly, the determination of the amount of inventory of pollution response equipment is made by the oil industry. The equipment is generally owned by private firms which are under contract for pollution response to companies which store or transport petroleum products. The Coast Guard inventory of open-water response equipment is determined by balancing funds availability against risk. The equipment is stored at two locations: near San Francisco, California, and at Mobile, Alabama. Also, the U.S. Navy maintains oil containment booms and skimming equipment which can be made available on a reimburseable basis when requested by the Federal On-Scene Coordinator or by the spiller.

QUESTION. What types of oil spill equipment does the Coast Guard maintain in each port?
ANSWER. The Coast Guard does not maintain an inventory of response equipment in major port areas. We made the decision several years ago that we did not want to compete with private industry.

Based on that decision, the Coast Guard's equipment inventory is based on areas where very little response equipment is available. The primary area is open-water response equipment. The inventory is located on the Gulf and West coasts. The equipment is sited so as to be close to air, water, and highway modes of transportation. It is designed to be rapidly loaded and is air deployable in C-130 or larger aircraft. The equipment is specially designed for off-loading and removal of spilled product. This equipment is available to On-Scene Coordinators as well as responsible parties upon request. The current inventory includes oil pumps and ancillary, equipmment to pump out damaged vessels, open water containment and skimming barriers, harbor skimmers, storage bladders, waterborne delivery sleds, trash and chemical pumps, communications equipment, and command posts, as well as various equipment for response to hazardous material releases.

SENATOR HOLLINGS: What type of equipment would be necessary to contain a spill the size of EXXON VALDEZ?

ANSWER: More equipment such as booms, skimmers, and disposal vessels would have been helpful; however, it is not feasible to contain a spill the size of which discharged from the Exxon Valdez. The magnitude of the spill negated any consideration for total containment and placed the emphasis on preventing further impact to affected areas and preventing sensitive areas in the path of the spill from being affected.

An assessment of worldwide advanced cleanup technology needs to be made to see where improvements may be made. A central repository for oil spill technology is also needed. Coordination by the Department of Transportation would help ensure that commercial and governmental research effort is efficient and not redundant.

SENATOR HOLLINGS: How much would such equipment cost?

ANSWER: It is very difficult to estimate the cost of enough equipment to contain an "EXXON VALDEZ" spill. Depending on the scenario, costs could vary significantly for spills of the same size. For example, one open water skimming barrier (612 feet long; 6 of which were used in Valdez) cost approximately $500,000 each. The skimmer must be accompanied by a pumping system which also costs $500,000. The types of equipment, as well as its effective deployment, are included within the parameters of an ongoing review of contingency plans in the U.S. and their ability to adequately address worst-case scenario oil spills.

SENATOR HOLLINGS: I understand that back in 1975 or '76 the Coast Guard purchased a skimmer from Samson Ocean Systems of Boston, MA that was about 100 times the size of the ones that are currently being used in the Prince William Sound. Why isn't this skimmer being used? Has the Coast Guard invested in oil spill R&D in recent years? What skimmers were available in Valdez at the time of the spill? Should we invest in vessels similiar to the Russian skimmer?

ANSWER: The "skimmer" you refer to was a prototype evaluated by the Coast Guard R&D Center in the mid-1970's. The evaluation resulted in a determination that the skimmer was an engineering nightmare and it would be unwise to proceed to production. At this time, the Coast Guard cannot make a recommendation on the type of pollution response equipment we should acquire for the future. One of the first R&D activities in FY-90 will be a reassessment of Coast Guard needs in conjunction with an assessment of the state-of-the-art pollution response equipment. A recommendation for future Strike Team equipment will result from this project.

SENATOR HOLLINGS: Legislation is being discussed that would put the Coast Guard in charge of contingency planning for oil spills. I realize that it is important to have a Federal agency ultimately in charge. Could you comment on this idea?

ANSWER: The Federal government should consider the extent to which contingency planning should be implemented under the Clean Water Act.

The President has ordered a nationwide review of oil spill contingency plans to be completed within six months. The Coast Guard will be the lead agency conducting that study. Key issues will include ensuring that plans in port areas address maximum probable spill assumptions and associated levels of manpower and equipment.

Consideration should be given to requiring major transportation and refining facilities such as tank vessels and terminals to have spill contingency plans. However, the Coast Guard should not be in charge of contingency planning. "Approval" of contingency plans could cause potential liability problems.

SENATOR HOLLINGS: How does Valdez compare with other U.S. ports in its ability to respond to oil spills? Is there any port in the world which could contain a spill the size of EXXON VALDEZ?

ANSWER: Valdez compares favorably with other ports in that the average spill for the port of Valdez can be handled easily. Valdez is unique in that the only major threat of oil pollution in the port is the Alyeska Marine Terminal. The pollution response equipment the State requires Alyeska to maintain is the only source of equipment for Valdez and Prince William Sound. The Coast Guard Marine Safety Office in Valdez maintains minimal response equipment. This is consistent with Coast Guard offices in other ports and Coast Guard policy not to compete with commercial contractors or industry. Equipment not normally available locally is maintained by the Coast Guard Strike Teams.

No port could totally contain a similar spill. The spill occurred without warning during the early morning hours. Over ten million gallons of oil were released during the first few hours of the incident. It is likely that the oil would still have escaped under or over booms, even if they were pre-deployed around the vessel before release. The spill occurred 25 miles outside of the Port of Valdez. Containment of the spill and deployment of personnel and equipment would have been easier had it occurred at the Alyeska Marine Terminal.

QUESTIONS SUBMITTED BY SENATOR DANFORTH COMMERCE, SCIENCE, AND TRANSPORTATION COMMITTEE

SENATOR DANFORTH: At our April 6 hearing, you seemed to suggest that Exxon's efforts to deal with the spill were not inadequate, and you said that there was no way that the spill could have been contained. Have your views with respect to either of those opinions changed since then?

ANSWER: No, our opinion has not changed in either regard. The Coast Guard remains satisfied with Exxon's level of effort. The magnitude of the spill and its rate of release probably precluded full containment of the spill. The ship lost approximately 11 million gallons in less than 8 hours, indicating a release rate of about 1.5 million gallons per hour. By daylight, the spill covered an area of 1000 feet wide by 4 miles long. This would have required more than 8 miles of containment boom just to handle the perimeter of a rapidly expanding spill.

SENATOR DANFORTH: A Soviet skimmer is reported to be capable of sucking up 200,000 gallons an hour. If it or a similar vessel had been on the scene shortly after the grounding, could it have kept pace with the spill and removed all the oil within 50 hours as it emerged from the vessel and before it spread and congealed?

ANSWER: The magnitude of the spill and its rate of release precluded any single vessel from keeping pace and removing all the oil as it was released. Most of the eleven million gallons lost was released within the first few hours. This indicates a release rate of at least 1.5 million gallons per hour.

The Russian skimmer advertised a 200,000 gallon per hour capability with an approximate storage capacity of 2 million gallons. With a wier skimming system, the oil to water ratio is 50/50. Under the best conditions, the Russian skimmer would only be able to skim 100,000 gallons of oil per hour, far less than the rate that oil spilled from the EXXON VALDEZ.

SENATOR DANFORTH: Did you or other officials of the Coast Guard consider blowing up the vessel with the oil, thereby burning it shortly after the grounding while the oil was still volatile and avoiding this mess? Who is charged with considering that option and making a decision? What are the criteria for making it?

ANSWER: No, there was never a recommendation to blow-up the vessel. Doing so would not have been effective. In fact, blowing-up the vessel would have caused the remaining cargo of the EXXON VALDEZ to be spilled into Prince William Sound, thus causing an even greater oil spill. One of the major bright spots in the spill cleanup was the successful offloading of the 42 million gallons of oil which remained on the Exxon Valdez after the incident.

The OSC and Exxon conducted a reasonably successful test burn of approximately 15,000 gallons of oil on the second day. The test burn was limited by the amount of fireproof containment boom available. The occurrence of adverse weather on the following and subsequent days precluded any further serious consideration of this alternative.

Blowing up a tank vessel as a means of mitigating a pollution threat is an intervention action authorized under Sections 311 (c) and (d) of the FWPCA. The authority to authorize such an action is retained by the Commandant of the Coast Guard.

A request to intervene may come from a Coast Guard Area or District Commander. Requests for intervention should be accompanied by amplifying information such as specific type and quantity of oil; position of the vessel; potential hazards to human health and the environment; specific areas of interest in danger; actions taken by the owner; evaluation of proposed actions of the owners; actions recommended by the Coast Guard On-Scene Coordinator; the ship's flag state; and the ship type. The Regional and National Response Teams will be activated and consulted. The Commandant will make the final determination on the request for intervention.

SENATOR DANFORTH: Did Exxon ask for permission to use dispersants within the first few days after the grounding? What was the Coast Guard's response? In retrospect, should some chemicals, perhaps agglomerants, have been used?

ANSWER: The use of dispersants and other chemical agents is regulated by the National Contingency Plan. The use of dispersants generally is considered on a case by case basis and requires the concurrence of EPA and the States involved. Each application must consider the potential harmful effects of the dispersant use. In the case of the spill in Prince William Sound on March 24, certain areas of the sound are preauthorized for dispersant use.

Approximately thirty minutes after the spill was reported, the Coast Guard On-Scene Coordinator (OSC) contacted Alyeska to suggest it consider calling aircraft to be used for dispersant application.

Early in the morning of March 24, the OSC advised Exxon that dispersants were preauthorized to use in certain areas of Prince William Sound, and advised Alyeska to start the dispersant use request process.

Over the next three days several applications were made with little success due to a variety of problems involving; suitable aircraft to apply the dispersants, availability of dispersants, and weather.

SENATOR DANFORTH: How much oil is still in the vessel? Will you insist that it be bone dry before it's moved? How many gallons will you allow to be in the vessel when it is moved, and how will you determine that your requirements have been satisfied prior to its being moved?

ANSWER: The T/S EXXON VALDEZ had most of its cargo offloaded between March 25th and April 4th. The vessel was refloated on April 5th and moved to its present location which is slightly west of Naked Island. The vessel is involved in salvage operations which include making temporary repairs, removing all remaining cargo and cleaning the tanks. The vessel is surrounded by containment boom, and a skimming vessel is standing by to collect any oil discharges. All oil is expected to be removed and all cargo tanks are expected to be cleaned by May 14th. The exact date the vessel will leave Prince William Sound is unknown. The Coast Guard must be satisfied the vessel is structurally capable of making a voyage before it will be allowed to leave.

SENATOR DANFORTH: How much money has the Coast Guard spent on the spill so far that would otherwise have gone to other programs in your budget? How much of that money expended on the spill has been reimbursed by Exxon? What are you going to do to fund continued efforts on the spill and other programs?

ANSWER: Exxon has been reimbursing the Coast Guard for the full cost of the Coast Guard units and personnel involved in the clean up of the Exxon Valdez spill. Therefore, funding has not been a problem. However, the spill response has diverted Coast Guard resources that normally would have been doing other missions such as aids to navigation, fisheries law enforcement, and search and rescue. The spill has also required a large amount of management attention at all levels. The impact has been most pronounced in the Seventeenth Coast Guard District in Alaska; at the Maintenance and Logistics Command, Pacific, in Alameda, California; and at Coast Guard Headquarters in Washington, DC. Responding to literally thousands of questions resulting from the spill has slowed the Coast Guard's ability to respond to administrative inquiries in all mission areas.

SENATOR DANFORTH: Precisely what is the Coast Guard's role and authority in reviewing contingency plans for Prince William Sound and other areas? Did you, for example, sign off on the plan for Prince William Sound?

ANSWER: The Coast Guard is required by the National Oil and Hazardous Substances Contingency Plan to maintain local contingency plans for all areas within Coast Guard jurisdiction. The Coast Guard Marine Safety Office in Valdez maintains the federal local contingency plan for Valdez and Prince William Sound. The main objectives for federal plans are to identify probable locations of spills; develop a notification system; identify government, commercial and industry resources capable or responding to pollution incidents; identify available equipment for removal operations and logistical support; identify procedures for initiating cost recovery; and coordinate with any local, state or industry contingency plans.

The Coast Guard has no authority to require Alyeska's contingency plan to meet certain standard. Federal regulations require oil transfer facilities to have an operations manual which includes an explanation of the equipment and techniques to be used by the company in the event of the hazardous cargo spill. The Alyeska contingency plan is different from this manual; it is required by the State of Alaska.

SENATOR DANFORTH: Did the Coast Guard threaten to stop tanker traffic in the Sound in 1986 because of inadequate plans? Did you subsequently find them adequate and remove that threat?

ANSWER: There is no record of the Coast Guard threatening to stop tanker traffic in the sound. There is no federal requirement for the Coast Guard to review or approve an area's contingency plan in this case, such requirements would be enforced by the State of Alaska.

SENATOR DANFORTH: You mention on page 8 of your statement that several reviews and analyses are underway. Whose responsibility should it be to pay to have adequate equipment, materials and personnel available at or near the scene of a major oil spill--the Coast Guard's or the oil company's?

ANSWER: The Clean Water Act places financial responsibility for cleanup on the spiller. The National Oil and Hazardous Materials Contingency Plan requires the federal On-Scene Coordinator (OSC) to provide the spiller with the opportunity to clean up the spill. If the spiller is unknown or his actions are deemed inadequate by the Coast Guard (OSC), the Coast Guard must arrange for cleanup. The Coast Guard does not have the resources to maintain the equipment, materials and personnel necessary to respond to an oil spill. The Coast Guard primarily relies on contracts with private contractors to provide the necessary equipment, materials, and personnel when a spill response must be federalized. The Coast Guard directly supervises the actions of these contractors in a federal response.

SENATOR DANFORTH: Based on your experience with this spill, what do you suggest be changed in the way of laws, regulations, and operation procedures?

ANSWER: The Coast Guard has actively sought the development and passage of comprehensive oil spill legislation over the past several years, and continues to strongly support the enactment of such legislation. Currently, no Federal regime is in place to provide for adequate liability and speedy compensation in the event of major oil pollution damage resulting from seagoing tankers. This means that such compensation must usually be sought through lengthy and expensive judicial proceedings. The United States should have an equitable and adequate oil pollution liability and compensation system to encourage prompt cleanup by responsible parties and to assure that those damaged by spills are compensated by those who are responsible. Additionally, the Coast Guard must have funds available to quickly respond if the responsible party does not clean up.

The Coast Guard has also:

- issued interim guidance for merchant mariner licensing and discipline measures.
- proposed new legislation to expand authority over merchant mariner licenses or documents held by individuals involved in shore related alcohol incidents.
- initiated review of pilotage authorities and requirements; including qualifications, training, pilot/master authorities, roles of Federal and State governments, and extent of pilotage waters.
- contracted with the National Academy of Sciences to review tanker designs and evaluations of alternative designs.
- initiated a review of all Coast Guard local contingency plans to identify shortfalls.
- developed a comprehensive list of research and development topics in all areas of oil spill prevention, response, and cleanup activity.
- in the area of navigation safety, initiated a Port Needs Study to address the adequacy of existing vessel traffic service systems and the need for additional systems.

SENATOR DANFORTH: What, if any, changes has the Coast Guard made to prevent a recurrence?

ANSWER: Coast Guard is reassessing the entire range of strategies for emergency response available, by either federal or private. We have:

- Issued interim guidance for merchant mariner licensing and discipline measures (relative to prior drug or alcohol (DWI) problems). Have proposed new legislation to expand authority over merchant mariner licenses or documents held by individuals involved in shore related alcohol incidents.
- Initiated review of pilotage authorities and requirements; including qualifications, training, pilot/master authorities, roles of Federal and State governments, and extent of pilotage waters.
- Have contracted with National Academy of Sciences to review tanker designs and evaluations of alternative designs.
- Commenced review of all Coast Guard local contingency plans to identify shortfalls.
- Refocused emphasis on Vessel Traffic Systems; reevaluating their roles and our needs.

QUESTIONS SUBMITTED BY SENATOR STEVENS
MERCHANT MARINE SUBCOMMITTEE

SENATOR STEVENS: Exxon is a participant in the operation of the North Sea oil facility at Sullom Voe in the Shetland Islands. This facility is very similar to the facility at Valdez in terms of geography, weather conditions, and throughput of oil. Yet the facility at Sollum Voe has considerably stricter operating standards and procedures, such as:

* a vessel trafic control system that provides extensive radar coverage and pilot control, helicopter transport of pilots in rough weather, aerial surveillance of tankers, and mandatory off limit areas for tankers;

* shut down of terminal operations for minor violations of regulations, firm visibility and wind limits for berthing and loading, use of four tugs to dock, and a safety checklist for departing and arriving tankers which are verified by qualified inspection officers; and

* frequent regularly scheduled drills for oil spill response teams, permanent mooring points for booms in environmentally sensitive areas, and an annual exercise involving all oil response teams and equipment.

Has the Coast Guard reviewed, or considered similar measures for the Valdez facility?

ANSWER: With respect to vessel traffic services, the Coast Guard examines traffic management practices and equipment in use in other countries to determine if they may enhance our own operations. We have limited information on the Sullom Voe VTS and are unaware of the extent to which operators at Sullom Voe exercise control over vessels. However, in light of the many similiarities between these two harbors, we intend to contact the Shetland Islands Port Authority directly to obtain more information and determine if their practices could be applied in Valdez. Similarly we intend to review the operating procedures and standards of the North Sea oil terminal facility at Sullom Voe to determine if their practices could be applied at U.S. ports including Valdez.

Senator **Kerry**. Thank you very much, Admiral. Let me try to see if we can get some benchmarks here, if it is possible, with respect to where we ought to be going and where we are going.

First of all, in your experience with cleanups and based on your knowledge of how oil spills particularly affect beaches and so forth, is there an imperative to try to clean up as much as possible by September 15th?

Admiral **Yost**. The imperative is exactly that, to clean up as much as possible. Now, the fear that I have is that we will get the idea somehow that we ought to restore that area by September 15th, and as I think Senator Burns mentioned, it is almost—it is impossible to restore the area by September 15th.

The goal is to get a rough cleanup of the gross amounts of oil off of those beaches by September 15th. That is a very, very major objective which we will strive for with no guarantee of being successful, in my view.

Senator **Kerry**. When you say, a rough cleanup, could you just describe to us what is the imperative of at least having that rough cleanup by then?

Admiral **Yost**. Let me describe a beach that the Vice President and I walked about five days ago, on Smith Island. The beach is pebbles and rocks that vary from the size of your fist to several tons. It is very, very heavy gravel, so to speak. The oil has sunk into that beach about three and a half feet deep.

The beach has been worked on by 200 people for approximately 10 days. Every day they go out and clean the oil off of the first inch or two with cold water wash, hot water wash, high pressure wash, and wash it into the Prince William Sound where it is skimmed up. The next morning, as the tide comes up it picks up the oil from as far as three and a half feet down and redistributes it on the beach. So when you come back the next day you can see almost no change from what it was the day before.

So again, 200 people spend 12 hours of backbreaking labor washing that beach off, slipping and sliding in oil, and again they come back yet the third day and find the same thing has happened. The beach had been cleaned for 10 days when I was on it to demonstrate the situation to the Vice President. I knelt down and dug it with my hands down to eight inches. When I came up, my gloves were literally dripping with oil.

Now, I do not know how many days we will have to have, or Exxon will have to have, 200 people on that beach in order to get all of that oil out. There is no other way that we know of to get it out, other than go in with massive bulldozers and destroy the beach, dig it all up and haul it away.

Senator **Kerry**. What is the total stretch of that beach?

Admiral **Yost**. That stretch is about a quarter of a mile.

Senator **Kerry**. How many personnel do you have, in total, on those beaches each day?

Admiral **Yost**. Exxon had approximately 200 people for, at that time, 10 days. Two of those days were weather days, days that they were not able to work because of inclement weather, so eight working days.

Senator **Kerry**. How many, total, are working on all the beach stretch? Is that it?

Admiral YOST. Well Exxon is ramping up. They started with zero beach workers, and they are ramping up to some number in excess of 2,000. But at that point in time on that beach they had 200 people. I would say that probably you cannot get any more than 200 people on a quarter of a mile of beach with all of the hoses and hot water equipment and generators and pumps and ramp boats and booms and skimmers that you need. You cannot get any more on.

Senator KERRY. Given that, if you extrapolate from that and from what is realistic in terms of manpower, equipment, et cetera, is there not a serious question as to the prospect of even getting a small modicum of that 400 miles cleaned by September 15th?

Admiral YOST. I think there is considerable concern, and that concern is expressed in the letter that I would like to offer for the record that was given to Exxon yesterday by the Federal on-scene coordinator, Vice Admiral Robbins. I'll present the letter here, if I could do so.

Senator KERRY. I would appreciate that. Would you read it to us?

Admiral YOST. I will read certain parts of it. I will make the points that the letter makes. The letter makes the point that Exxon has agreed to substantially increase the work force that they will put on the beach this summer—a substantial increase in that work force.

That the Federal Government will assist Exxon in finding any equipment that would be on the critical path. In other words, you cannot put people on the beach unless you have the pumps, the boilers, the high-pressure water systems and the other things that Mr. Stevens will probably be able to tell you about when he becomes the witness here.

That to the extent they find they cannot get that kind of equipment or enough of it, we will assist in determining where that equipment may become available, either inside the government or outside that government.

That we will keep the U.S.S. Juneau and the U.S.S. Fort McHenry in Prince William Sound to assist in this cleanup as long as is needed. They will submit—Exxon will submit—a separate plan for the cleanup of beaches outside of Prince William Sound with a separate work force. A detailed list of those beaches to be cleaned up outside of Prince William Sound will be provided by the Shoreline Committee as soon as possible. Exxon will provide an additional work force for those efforts.

We do not expect the beach to be pristine at the end of this season. It will not be restored, but we would expect it to be a reasonable cleanup within the human possibility. Beaches will be examined in the spring of 1990 to see what additional cleanup is needed and what restoration is needed. Exxon will be willing to continue that in the spring of 1990, and thereafter as long as needed. Their waste management plan remains under review and will be responded to separately.

Now, we took—in preparing that letter—the written advice of the Alaska Department of the Environment, NOAA and EPA, the Sierra Club, Chuchek Corporation and many others. So yes, that was our response, and I'll provide that letter for the record, if I may.

Senator **Kerry**. Thank you very much. That letter will, without objection, will also be made a part of the record.

[The letters follow:]

U.S. Department of Transportation
United States Coast Guard

Commanding Officer
United States Coast Guard
Marine Safety Office

P.O. Box 486
Valdez, Alaska 99686
Phone: 835-4791

MAY 9 1989

MR. Otto Harrison
General Manager
Exxon Company; USA
P. O. Box 670
Valdez, AK. 99686

Dear Mr. Harrison:

I have reviewed your May 1, 1989 Shoreline Restoration Plan. The approach you describe is a sound one but I remain seriously concerned that the investment of resources you describe will not be able to clean the 300+ miles of shoreline in the time allotted. Much of my concern is based on the last two weeks' effort on Smith Island. In fairness, I recognize that Smith Island is likely the most heavily soiled beach we'll encounter, and further that you have been building your force structure and learning to solve equipment and logistics problems that will likely recur less often as the program matures. Based on our conversation of May 2, 1989, I know Exxon was already moving to add resources beyond those shown in the Plan and so ensure a margin of safety to meet the schedule for beach cleanup.

Accordingly, I find your Plan to be a well designed approach but needing elaboration. The following list of items, once accomplished, will result in a plan I can and will support.

1. Substantially increase your workforce with a view toward increasing the rate of beach cleanup.

2. Provide an inventory of potentially critical--path equipment items you'll need for that acceleration effort and screen for adequate supply sources. I will provide any federal screening assistance that may be helpful in order to locate this equipment for your use.

3. A plan for the beach cleanup work outside Prince William Sound should be submitted as soon as the Shoreline Committee furnishes you an inventory of beaches requiring attention. To the extent equipment is not limiting, additional manpower will be dedicated to this effort.

4. Anticipate a review of the adequacy of the beach cleanup effort in the Spring 1990. Renewed clean up efforts may be required at that time.

5. Retain the USS FT McHENRY and USS JUNEAU as hotel and support ships for the duration of the high--level cleanup effort.

6. Provide me adequate access to Exxon's daily/weekly work intentions. I need those work intentions so as to schedule my own monitoring activity. As it relates to the full plan of work, provide me weekly checkpoints now, in terms of beaches to be cleaned (total mileage or specified beach segments), so I can monitor whether or not the total effort is on schedule throughout the summer.

Again, I emphasize that the concept of the plan is sound. Please address the concerns I've presented immediately, and incorporate them into your Plan. Advise me as you do so.

I will address my comments on your Waste Management Scoping Plan by separate correspondence.

Sincerely,

C E Robbins
Clyde E. Robbins
Vice Admiral, U. S. Coast Guard
Federal On Scene Coordinator

EXXON SHIPPING COMPANY
2450 EAST SECOND STREET • BENICIA, CALIFORNIA 94510-1005 • (707) 745-7414 "STANSHIP SAN FRANCISCO"

WEST COAST FLEET OFFICE

H. A. BORGEN
MANAGER

W. DEPPE
PORT CAPTAIN

P. B. MYERS
PORT ENGINEER

J. C. [illegible]
TRANSPORTATION COORDINATOR

October 7, 1987

Oil Spill Contingency Plans
Exxon Shipping Company

Mr. Paul O'Brien
Alaska Dept. of Environmental Conversation
P. O. Box "O"
Juneau, Alaska 99811-1800

Dear Mr. O'Brien,

Reference is made to your telex of September 22, addressed to our Houston offices, requesting a description of the Oil Spill Contingency Plan and Oil Spill Response Capability of Exxon Shipping Company, should a casualty involving a vessel owned or operated by us occur in Alaskan waters. We are responding to your letter because this office is responsible for the operation of Exxon's tankers along the West Coast of the U. S., including Alaska.

The attached will provide you with an overview of Exxon Shipping Company's Oil Spill Response capability. This information comes from various casualty response manuals maintained by us. Copies of these manuals (which are quite voluminous) may be made available to you, should you desire.

These plans cover vessels owned, chartered and operated by Exxon Shipping Company.

If you have any questions, or require further information, please let me know.

Very truly yours,

Harvey Borgen

49918
Attachment

c: T. L. Polasek - Alyeska Pipeline Service Co.; Anchorage
D. E. Cornett - Exxon Company, U.S.A.; Anchorage

EXXON SHIPPING COMPANY

OIL SPILL RESPONSE PROGRAM

Exxon Shipping Company is proud of its oil spill record. Since our fleet started operating from the port of Valdez, less than one barrel of oil has been spilled during loading. In spite of this impressive record, Exxon Shipping Company continues to critically review each spill related incident, to identify corrective steps to prevent a recurrence. Where considered appropriate, changes have been made to equipment or operating procedures.

However, in spite of all the preventive measures taken, Exxon Shipping Company is prepared to respond quickly to an oil spill.

Exxon's corporate oil spill policy requires that each operating function of the company; Production, Refining, Marketing, Pipeline and Shipping, be responsible for any oil spill response resulting from its operations. As a result of this policy, each operating function has developed comprehensive oil spill response plans for its activities. Since a major oil spill could place a heavy burden on any one function's manpower availability, Exxon has developed the concept of interfunctional oil spill response teams. This concept is designed to supplement existing functional manpower with a pool of trained oil spill clean up supervisors and specialists from other functions and affiliates. Exxon Shipping Company (ESC) utilizes a tiered response concept to fulfill this obligation; i.e., local capability applied first, with additional capability activated as appropriate.

The implementation of policy and the operational control over Exxon Shipping Company's owned and chartered fleet of tankers trading from Alaskan ports is coordinated through the West Coast Fleet Office in Benicia, California. The West Coast Fleet Office maintains a comprehensive oil spill response plan which outlines their response team's organization, alert procedures, team members, job descriptions, available resources, etc. This team has the capability to manage the response effort for spills ranging up to approximately 250 - 500 barrels, dependent on location and scope of the clean up effort. (For instance, in Alaska, all of our operations are related to the Alyeska terminal at Valdez, where the terminal maintains response equipment and manpower, thus reducing the initial requirements which would be required from Exxon Shipping.)

The West Coast Fleet Office Team consists of four to seven highly trained management level personnel, augmented by contractor personnel. Spills in excess of 250 - 500 barrels would probably necessitate the activation of ESC's Oil Spill Assistance Team (OSAT) and/or Exxon's Interfunctional Oil Spill Response Team (IOSRT) to assist the West Coast Fleet Office Team in managing the spill clean up.

Activation of the ESC's Oil Spill Assistance Team (OSAT) is coordinated through the Environmental Conservation Coordinator at our Houston office. The typical organization, that would be activated in the event of a major oil spill, is outlined on the chart on page 4. The key managerial positions, which are cross-hatched on that chart, are filled by pre-designated individuals from the West Coast Fleet office and from the Houston office. These key positions would include:

On-Scene Commander,
Operations Manager,
Field Activities Superintendent,
Oil Spill Accountant,
Support Superintendent,and
Safety Advisor.

The extent to which all positions would be filled is dependent upon the extent of the response effort required. Any remaining positions would be filled by the Interfunctional Team described below. Detailed job descriptions are written for each position on the team.

Exxon's Interfunctional Oil Spill Response Team (IOSRT) was designed to supplement the functional response teams. The Team consists of 54 pre-selected and trained clean up supervisors from the operating functions and 46 specialty and/or scientific advisors. The clean up supervisors have been further divided into two teams, each being available to serve as a back-up to the other. The clean up supervisors have primary responsibility for directing contractor activities at the spill site and are selected based upon their current or former assignments, and their experience in oil spill response incidents. The specialty/scientific advisors are highly trained specialists who can provide guidance and advice to the on-scene management on a broad range of activities. All clean up supervisors, most advisors and functional spill managers have attended Texas A & M's Oil Spill Control School.

In the event that activation of the IOSRT is required, or anticipated, immediate notification of the team members occurs according to predetermined procedures. Team members are available to respond to the scene of a major spill within 24 hours of the initial call for assistance. Team members may be activated at anytime, 24 hours a day, 7 days a week, including holidays and will be prepared to stay on scene for at least one week. Relief/rotation by members of the other team is arranged by the on-scene commander.

In addition to committing manpower to oil spill response, Exxon has also committed funds to purchase essential equipment to supplement the team at the scene. Over $400,000 has been spent to acquire and maintain a dedicated emergency response command van and supporting communications equipment. This equipment is maintained, in a state of immediate readiness, at Houston's Intercontinental Airport and can be deployed within a matter of hours.

The command van is a self-supporting 8' x 28' van fitted with desks, telephones, kitchen and lavatory facilities, and is deployable either by air or land. The communications equipment includes portable and base station VHF and UHF radios, scanners and recorders, portable and mobile telephones, a weather station, as well as supporting euipment and tools. Additional antenna equipment makes the system viable beyond the normal line-of-sight capabilities of these communications systems.

To further support any oil spill response effort, Exxon is a member in industry oil spill cooperatives, where the company has an active business interest. In Alaska, Exxon is a member of Alaska Clean Seas, and as a shareholder in the Trans-Alaska Pipeline, supports the response capabilities of such organizations. In addition to the local cooperatives, Exxon is also a member of two large oil spill stockpiles. Specifically the Tiered Area Response Consortium (TARC) located in Singapore and the OSR, Ltd. stockpile located in Southhampton, England. Equipment from either of these stockpiles can be called upon to respond to a spill in Alaska, and could be at a major airport within 24 - 48 hours. Finally, Exxon is a supporting member and sustains three on-going endeavors to produce and maintain Resource & Logistics Manuals, which list equipment location and suppliers along the coasts of the United States.

In summary, Exxon Shipping Company ensures that its fleet of owned tankers operates safely and efficiently as demonstrated by our past performance. ESC also takes the steps necessary to ensure that, in the unlikely event of an incident, it will be prepared to quickly, efficiently and effectively respond to an oil spill in Alaskan waters, with the necessary number of trained individuals and resources. This same concept applies to both owned and chartered tankers.

[illegible]

Senator Kerry. My time is up. I have some other questions, but let me turn to my colleagues because we have a number here. Senator Stevens?

Senator Stevens. Thank you, Mr. Chairman. Could we get copies of that letter?

Senator Kerry. Yes.

Senator Stevens. Admiral, we have visited at length so I do not intend to go into extensive questions with you, but let me ask this. It is a question that has been raised by some of our people in Alaska. Exxon and others are participants in a North Sea terminal facility at Sullom Voe in the Shetlands.

The facility is very similar to the one in Valdez in terms of geography, weather conditions and they have a substantial throughput of oil, too. It has considerably stricter operating standards and procedures than Valdez.

For instance, there is a vessel traffic control system that really has total control, radar coverage, pilot control, helicopter transport of pilots through rough weather, aerial surveillance of tankers while they are in the port and mandatory off-limit areas for tankers.

It has a shut down of terminal operations—it has been shut down for minor violations of regulations. They also have shut it down for poor visibility or wind limits.

They use four tugs on every vessel, a safety check-list for departing and arriving tankers which is verified by qualified officers of their Marine Service and frequent regularly scheduled drills for oil spill response teams. They have permanent mooring points for booms and they have at least an annual exercise of all oil response teams and equipment.

We found there was no cooperative plan for the Prince William Sound. We thought that is what Alyeska really meant, was a cooperative plan. But it is not a cooperative plan in the sense of all of the participants being committed to participate with Alyeska, as I understand is the situation in the Shetlands and in Singapore and in other areas of the world.

Has your service ever reviewed that concept for Valdez? Why do we not have a cooperative plan and a rigid control under standard procedures for an area as sensitive as Valdez?

Admiral Yost. I cannot answer that directly, Senator, other than to say that we have some of the things that you talked about in place for the Loop terminal in the Gulf of Mexico off of New Orleans. I think we need to review the Valdez plan in light of the Shetland plan and in light of the Loop plan and see if some of those restrictions and requirements would not be appropriate.

The Alyeska plan, of course is approved by the State of Alaska, but that is not to hide behind that, because certainly the Coast Guard and the State of Alaska worked very closely together in putting—in approving the Alyeska plan, although it was state-approved. I think we need to look at that very carefully, sir.

Senator Stevens. The legislation I introduced yesterday incorporates a substantial portion of the cooperative concept. I have another bill coming to mandate cooperative plans in any area where there is substantial import or export of oil from a domestic terminal, and I would urge that you take a look at those and see what guidance we might get. I am sure you will be asked about it eventually, anyway.

As I indicated, because of the time I have spent with you all, I think it is imperative that we allow my colleagues on this Committee to ask as many questions as possible and get answers. So I will yield to them, and I thank you for being here.

Senator BREAUX. Thank you very much, Admiral, for being with us. I know you must be tired of visiting Congressional hearings, and you would prefer spending some time cleaning up the spill. But, I think these hearings are important to determine what steps we are going to take to try and improve the process to make it easier should it ever happen again.

Let me ask you—suppose instead of *Exxon Valdez* it was S.S. *No Assets* owned by a foreign company domiciled in a foreign nation and the same situation had happened. Who would be paying for the cleanup?

Admiral YOST. I think we would be in serious trouble. I say that as a modifier that most of the traffic in that trade is Jones Act, as you know, and has to be American flag.

Most of the traffic involved in that trade is also a part of the Alyeska consortium in one way or another.

Now, there are some foreign vessels in the trade that haul into St. Croix. St. Croix not being a U.S. port does not have to be Jones Act.

But if it were a no asset corporation and a spill that size anyplace, we would have on our hands a spill that we would have to federalize that would be a multi-hundred million dollar spill. And we have about—started with about—$3 million in the 311(k) fund.

We would have to start reprogramming money from our other appropriations into the 311(k) fund, and I would think that after just a few days, a few weeks at most, not only would the fund be broke, but so would the Coast Guard.

Senator BREAUX. So, were it not an owner of the size of an Exxon, basically you have got a major problem and no funds to handle it.

Admiral YOST. Without the corporate attitude Exxon has taken in paying for this spill, we would frankly be in very serious trouble financially, and we would be before this Congress asking for emergency appropriations of some sort to carry us on a day-by-day basis through this.

Senator BREAUX. Let me ask you something else. How many oil spill funds are currently in existence in this country, number one, and why do none of them apply to a situation such as this?

Admiral YOST. I am told by my staff there are four funds. There is the TAPS fund, which is the pipeline fund itself, and my understanding is that fund is part of the money that will be backing up Exxon. The 311(k) fund, which is the federal fund that we draw on, was down to about $7 million when we started this. Just as an aside, the very reason that that fund is down that low is that Congress reprogramed money out of the fund in 1988 when the Coast Guard got a $60 million supplemental to partially offset $100 million budget shortfall.

So, money is a very serious situation. I mentioned that again to the Chairman.

Senator **Breaux**. Those are appropriated funds in 311(k). The oil industry contributes to the TAPS. To what other fund do they contribute?

Admiral **Yost**. The offshore fund, the Outer Continental Shelf Fund, and that is basically for production spills in the Outer Continental Shelf, which does not apply to this spill.

Senator **Breaux**. What about the Loop fund?

Admiral **Yost**. And the Deep Water Ports Fund, which is the Loop fund, does not apply to this spill. So, the only two funds that apply to this spill are TAPS and 311(k).

Senator **Breaux**. What is the position of the Coast Guard with regard to the legislation that has been pending around here almost as long as I have been here, oil spill liability fund, and would it cover something like this.

Admiral **Yost**. We are a strong supporter of that, as I know you are, and the administration is preparing a bill even as we sit here.

The Jones bill is also a bill that does much of what we would want. There are a couple of other bills proposed, but it is absolutely necessary that the legislation support the international protocols.

Senator Mitchell's bill is a very good bill, but it does not support, the protocols. And, for that reason, I cannot support it and I do not think the administration will be supporting that bill. We need the two protocols.

Senator **Breaux**. Let me ask another question. We had an Alyeska contingency plan that apparently was the plan that would go into effect in the event of an accident such as this. A couple of questions about it: Number one, apparently it did not envision a spill of this magnitude, although we have ships carrying this amount of oil into that area on a fairly regular basis.

The first question is, how can we have a contingency that did not consider a spill of this magnitude when, in fact, it was a common occurrence to have ships of this size operating in those waters.

And then, secondly, just a general comment from you as to how you felt the plan, the Alyeska plan, worked. Was it effective or not and if not, why do you think it was not?

Admiral **Yost**. Well, the plan—there were several plans. Let us talk about the Alyeska plan.

The Alyeska plan, basically, responded to or was designed for about a 2,000 barrel spill. Now, the plan discussed a spill up to—

Senator **Breaux**. About a 2,000 barrel spill?

Admiral **Yost**. 1,500 to 2,000 barrel spill.

Senator **Breaux**. And how much was this?

Admiral **Yost**. This spill was 240,000 barrels.

Now, the Alyeska plan discussed very briefly a 200,000 barrel spill, but that was only about two pages of a plan. It treated it very lightly, and it talked in terms of using dispersants for that type of spill.

The plan was woefully inadequate in addressing a spill of 200,000 barrels. In this case we had 240,000 barrels.

Senator **Breaux**. How can we ever approve a plan in this area that was a plan to clean up based on the potential of a 2,000 barrel spill when we have tankers in there with 240,000 barrels of oil going in and out?

Admiral Yost. As I say, the approved plan discussed very briefly a 200,000 barrel spill. It also discussed a 74,000 barrel spill. But the cleanup equipment and the plan itself, in my view, addressed about a 1,500 to 2,000 barrel spill which is certainly way, way less than we actually had or that was discussed briefly in the plan.

Senator Breaux. That is my question. How is that approved? Did we in Congress say that is an acceptable plan or the Coast Guard or the state?

Admiral Yost. The plan was an Alyeska plan that was presented to the State of Alaska. It was negotiated with the State of Alaska and had several iterations ending up with a plan that at least addressed and discussed a 200,000 barrel spill. But what was really stockpiled—what was there in the way of equipment and men and training and barges and booms—was more appropriate for about a 2,000 barrel spill, in my view.

That equipment did not work exactly as proposed in the plan for some reasons of delays, et cetera, but I think that we are drawing a red herring across the trail when we say Alyeska did not respond for 12 hours.

The real problem was there was never enough equipment—whether we are talking about boom or we are talking dispersants—to address a spill of this magnitude. That was the problem, regardless of how fast it had been brought to the scene.

Senator Breaux. Thank you, Mr. Chairman. My time has expired.

Senator Kerry. Senator Bryan.

Senator Bryan. Thank you very much, Mr. Chairman.

Admiral Yost, when Secretary Skinner and, I believe, Captain Larrabee was with us, not too many days after this environmental tragedy occurred, I detected considerable ambivalence in the testimony as to who was really in charge, and I do not want to beat this to death, but I have read your prepared statement. I must say that I am somewhat confused.

I think all of us would acknowledge that in terms of culpability Exxon ought to pay the bill for whatever is involved in the cleanup. I do not think most of us have any quarrel with that.

My concern is that immediately after this occurred, who has the authority to say, "Look, you are not doing this right. You need to move this equipment from point A to point B, and I want it done immediately."

I have never received a satisfactory answer, and perhaps, you can clarify that point, Admiral.

Admiral Yost. I hope I can, because it is very clear in my mind.

When you have a spiller that is identified and taken responsibility for the spill, as Exxon has done, the federal on-scene coordinator's responsibility is to monitor the progress that the spiller is making in the spill cleanup. At such time as he does not think the progress or the approach is correct, he then says to the spiller, "I do not think you are doing this correctly. You would be doing it correctly if you did the following things, A, B, C, D, and E."

They may do all of those exactly the way he tells them to. If they do not, he has the prerogative of saying, "That does it. I am federalizing this spill. I am in charge. The federal government is in charge. We will contract the people, and we will run this spill cleanup."

Or, he has the ability to negotiate with them and have a meeting of the minds of what should be done, how fast, and where.

Now, when you have got a 240,000 barrel spill that the federal on-scene coordinator can see is probably going to run between $1 million and $3 million a day and he has got $3 million in the 311(k) contingency fund, it might be that he would be very careful about saying, "That does it. You are finished. You are out of here, you are history. I am in charge. I am going to contract for this thing and do it myself." That is what happened.

In addition to that, let me say that the predesignated on-scene coordinators throughout our ports are officers and are on-scene. In this case, the senior officer on scene was a commander, United States Coast Guard. Very capable. A very good young man.

And we began to get newspaper people, Congress, Senators, the Vice President and other people arriving on the scene. It became apparent that no longer could we have a young commander in charge. Ultimately the Commandant got sent there. And I kind of wish I were there right now.

Senator **Bryan**. Admiral, I am not trying to be judgmental. But if you had been here that day and you had heard the testimony from the Secretary and others that there was a real reluctance—and they use as you do federalized, because they implied or suggested that somehow that might relieve Exxon of its ultimate responsibility in terms of damages. We are not talking about responsibility of who caused it, but responding.

So, let me put your answer in the context of what occurred. If indeed the on-site coordinator who is a Coast Guard officer—you used the term in your testimony, coordinator. You were referring to a member of the Coast Guard, whatever his or her rank may be. If the on-site coordinator in this spill made a determination, look, they are not doing this right.

Clearly we need to have more than just the response of Exxon since the scope and magnitude will involve marshaling assets not only from Exxon, but from the Department of Defense, from the private sector, every person who could conceivably have contributed to the response.

That coordinator then would have the authority to say gentlemen, I am taking charge. Do I have that correct, Admiral?

Admiral **Yost**. That is true, yes.

Senator **Bryan**. And the reluctance, I gather—and again, I am not being judgmental with respect to this—but just so that I can be very clear on this, there is reluctance, you are suggesting to us that when that decision is made because of the amount of money that you have in this appropriated fund that there is some caution in terms of making the judgment as to whether or not the Coast Guard, the coordinator on site, actually takes charge. Did I hear that correctly in your testimony?

Admiral **Yost**. Yes. But in this case it is not the whole story.

Senator **Bryan**. I am not saying that it is. But what I am interested in not so much rehashing the past, Admiral. My point of view, sir, is that if the Coast Guard officer in charge, whoever caused it, whatever the circumstances, reaches the judgment and based upon his or her professional experience, this cleanup is a disaster. Somebody has got to take charge. I am the guy that can make that judgment.

He ought not to be thinking, in my opinion, oh my God, I cannot make this decision because we have only got $240,000 left in the fund and if I do it, what are we going to do prospectively.

Admiral YOST. Well, I agree. He should not. And I do not know that this young officer was particularly worried about that.

I think that I, having more knowledge of the appropriation process, was probably more worried than he.

Senator BRYAN. Again, Admiral, for purposes of this colloquy, I am not trying to claim that you folks did not do the right thing.

The last thing that I would like to ask is what jurisdiction do you have to review the contingency plans, as well as the on-site equipment, that is available with respect to other areas in our coastal waters that may also be at risk in the event of some type of a disaster of the magnitude of the *Exxon Valdez*.

Admiral YOST. Let me say for starters the President has directed me, within six months, to review all of the contingency plans, and we are in the process of doing that.

But more important than that, let me describe just briefly the contingency plan situation.

There is a national contingency plan that is a federal plan. Under that there are regional plans in each of several regions. Under that, each captain of the port, United States Coast Guard, has a contingency plan for his captain of the port area.

Now, he does not have any equipment or almost no equipment. He has no, almost no, particular expertise in strike team people or people trained to do that. He depends on that from the national strike team.

One section of the national strike team is in San Francisco, and one section is in Mobile. They have a considerable amount of equipment that is air deployable. And by the way, we were on scene with a strike team out of San Francisco within about six hours of this spill, with equipment.

But those contingency plans that I have described really have no equipment associated with them except the national equipment centrally located in the locations I have mentioned. When you get into a contingency plan that has equipment associated with it, you are then into the terminal contingency plan. And that terminal plan is part of the operations manual of the terminal. The private terminal plan is written before the Coast Guard allows it to operate. And the Coast Guard gives that a review to see that that terminal is able to handle spills at the terminal.

Now, as far as equipment designated to handle a major body of water, say San Francisco Bay, no terminal has the responsibility for San Francisco Bay.

There is not any equipment, per se, that is designated to handle Prince Williams Sound, San Francisco Bay, Puget Sound, et cetera. There are a number of terminal plans, and there are consortiums of operators that have equipment available at their terminals that can be used for these spills.

Senator BRYAN. My time is up. This is certainly a fruitful avenue for additional questions, but my time is up, and I will yield.

Senator KERRY. Thank you, Senator.

Senator Lott.

Senator LOTT. I believe we skipped over Senator Burns.

Senator KERRY. I apologize. Senator Burns.

Senator BURNS. Thank you, Mr. Chairman. I get skipped over a lot. I am pretty unnoticeable, small, quiet, unassuming.

Admiral YOST. Good looking.

Senator BURNS. Yes, and good looking.

I guess I just have one question. We talked about contingency plans—and I am not going to dwell on the past, I will tell you that, because we have to look at what happens next. We still have risks out there. We are still moving on.

Admiral, as of this hour right now, have you got people working on a contingency plan and going over the mistakes of the past and saying okay, this is what we are going to do in the future? I mean, right now because I do not want to wait six months for the report.

Admiral YOST. Yes, we have. And more than that, we are taking a look not at just contingency plans, but the whole system. Somehow this transportation system failed us.

We need to look at the licensing of mariners. We need to look at the requirement for pilots. We need to look at the amount of radar and other control we have in the vessel traffic services. We need to look at aids to navigation to be sure that they are sufficient.

We have got the whole system. Something in this system failed us. Maybe more than one thing.

Senator BURNS. I just wanted to assure the American people that we are not going to wait six months for a report, that there are things going into effect and the studies are going on right now because we still have tankers moving. We are not going to stop moving things until your plan arrives.

And I just wanted to share with the American people that we are doing something about it, and that is the only question I have.

Admiral YOST. May I add to that?

We have clamped the regime on Prince William Sound. It is very, very stringent, very, very tight, with the State of Alaska. No movements during night hours. All movements with two tugs. Vessel traffic system plotting every three minutes inside the narrows, those kinds of things that are above and beyond anything we have ever done before. We are going to continue that until we find out really what we want to do on a permanent basis.

Senator STEVENS. Could you yield to me for just one moment?

Senator BURNS. Well, I have no further questions.

Senator STEVENS. Admiral, you have the capability in the Coast Guard and the port commanders have the capability to require equipment on board tankers. Legislation that I have introduced, and that Senator Johnston has introduced, would require these tankers to carry on board a boom to meet immediate contingencies and to have small boats to deploy them.

We have not put it in the legislation yet, but it has been suggested we ought to find out whether some of these tankers could not have equipment to suck up oil so that if they are there in a port, they do not have to just sit and wait to either have access to the port or to leave the port. They might be participants in a recovery.

We all carry spare tires and jacks. I had to think about it the other night. I think I have had two cars and have not had to use them at all. Our society is used to paying for its own risks, but these tankers do not carry anything to meet their risk.

Now, cannot we move on that without legislation?

Admiral YOST. I am not sure whether we can or not. It is possible. We need to discuss it further.

I am aware of a previous study that was done that said it was not feasible. I am not sure that study was correct.

We do know that the majority of spills occurred at terminals during loading and unloading and, of course, the terminal is required to have the equipment.

You would think that the equipment carried on ships would only be needed for open ocean type of, or sound type of, deployment. An open ocean boom is extremely bulky. It is hard to get on; it is hard to get off. You need cranes. You need tender boats to deploy it. You need boats to hold it in place. You need heavy anchors to help hold it in place. Large-scale response equipment is heavy, bulky, and very difficult to deploy from a tanker.

In addition, tanker crews are very small. They become very competitive. They have got to keep their crews small. When a tanker has an accident, the crew's first concern is saving the ship.

The last thing the crew is going to be thinking about is booming the ship for oil when they are worried about whether it is going to sink under them. There are so few people, they probably could not do it. There are a lot of problems in what you say, but it is something we have got to look at, and we will, Senator.

Senator KERRY. Senator Lott?

Senator LOTT. Thank you, Mr. Chairman. Admiral, we obviously have a major disaster on our hands and we have all got to be vigilant, and you have got to work very hard to try to clean it up in every way that you can. But I think what we have got to do in addition to making sure that cleanup takes place is to do what the Senator from Montana was just asking you, to go back and look at how this could have been avoided.

Now, you mentioned a number of things that would perhaps help, but I think we need to take a look at possible changes in laws, possible changes in regulations, operating procedures. You mentioned buoys and number of tugs that are used, or whatever. Do you have a testing—random testing occasionally for drinking or drugs—of these mariners?

Admiral YOST. Well, as you may know Senator, the Department of Transportation has proposed a very wide-ranging drug testing program for the entire transportation industry. This is in public procedures now. There is certainly a lot of opposition to it throughout the transportation industry, including in the marine industry. The unions have some problems with it. It has not yet become regulation, but it does incorporate pre-licensing testing for drugs, random testing, and it includes post-accident testing.

Now what we have in this case, unfortunately, is an allegation that alcohol was involved. We all know that pre-license testing and random testing for alcohol is not very effective, because alcohol stays in your blood for such a short period of time. So we have got a way to go in how we handle alcohol abuse and how we test for it and how we check for it.

The key is the master. The master of the vessel is responsible for seeing that alcohol is not used on his vessel. The system works very, very well up to the point that the master becomes the problem, and then it is a little more difficult.

The chief mate and the chief engineer have some very clear responsibilities in that regard. Whether or not they discharged them in this case is the subject of the on-going investigation, but it is not an easy thing to do. But the Department of Transportation is certainly on the forefront and in court and everything else on our drug testing program.

Senator LOTT. Without trying to get into any individual problems involved, or maybe investigations or even trials that will take place, in looking at this particular incident, things that maybe could have been done to avoid it, there was drinking on board. Clearly there should not have been, and we need some procedures to try to deal with that and you say that they are there, but they are not necessarily enforced. It depends on the master.

Secondly, what are the rules with regard to the master being at the helm, in effect, when they are navigating a potentially treacherous area? Thirdly, from what I saw in the press, this vessel was clearly off the normal course. Do you have any comment on those three things?

Admiral YOST. I do. First, I have got to start my comment by saying the National Transportation Safety Board is involved in an investigation of the very things we are talking about, so I have got to be very careful that I do not pre-guess the results of that investigation.

I will say this. The master, by the rules of the company and the customs of the sea, is responsible for the vessel and will always be on the bridge during times of very congested and dangerous navigation.

In this particular case, somebody with pilotage was required to be on the bridge during this stretch, and the master was the only one on the vessel who had that pilotage, so he was required by regulation to be on the bridge.

Again, the system tends to break down when the boss is the culprit and the boss is responsible. The master is responsible for the entire vessel, the regulations, and what have you.

In this case, he was the one who violated them. As I have said before, the chief mate and the chief engineer have some responsibilities in that regard, but it is much more difficult to execute those responsibilities when the master is not doing what he is supposed to be doing.

Senator LOTT. Well, we could pursue this area further, but let me shift to one other one. Does the Coast Guard need more sophisticated equipment? The skimmers that have been talked a lot about, should we go out and contract for it in the private sector totally or, do you have skimmers? Do you need more skimmers all over the area where we have the potential of oil spill, where they could move in quickly?

You know, it is getting a little embarrassing. We appreciate the friendship but when it takes a Soviet ice breaker to come in and rescue the whales, and then when we had a hurricane in Mexican waters last year—Gloria, I think it was—it was Soviet hurricane hunters that moved in to watch that hurricane and we could not get into that air space because they had preempted the air space. The Mexicans would not let us in. Now it is Soviet skimmers that come to our rescue again. Do you have what you need?

Admiral YOST. Well, I think it is clear that the United States does not have in ownership, or under U.S. flag, the type of salvage equipment of all kinds that we had 30 or 40 years ago, even 10 or 15 years ago. If I want a large salvage tug today, I will probably go to Smitt in Holland to get it. That is not because I do not like U.S. flag vessels.

It is because there will probably not be a large, heavy-lift salvage tug available under U.S. flag, because our salvage companies, over the last few years, have gone the way the rest of the flagships under U.S. flag have gone. They have disappeared.

The Soviets, in fact, keep a very large fleet of salvage vessels, including skimmer vessels, available to support their very large Merchant Marine and their very large Navy. They are very capable of doing that. We are not.

Senator LOTT. Are they in their Navy or Coast Guard, or are they private, or what?

Admiral YOST. They are in the Merchant Marine, but in the Soviet system it is very difficult to tell what belongs to the government and what belongs to private enterprise. There is very little private enterprise there. Their salvage equipment is designed to support both their Navy and their Merchant Marine.

Now, this vessel that they sent to us was a very large, very capable salvage vessel with skimming ability. It got into this oil, and it was not very effective. If it is any help to our egos, we found that the Soviet vessel, although it was willing and available, was not very effective.

It had a weir skimming system. This oil was very thick and very weathered, and the Soviet vessel was very, very frustrated by its inability to skim oil in the way that it thought it would be able to. They were helpful, they are still helpful, but nowhere near what they were cracked up to be in this kind of oil.

Senator LOTT. Do you have skimmers in the Coast Guard?

Admiral YOST. We have no skimmers in the Coast Guard. We have some skimmer boom. We may have two or three little skimmers, but as far as the big Marco-type skimmers that Navy SUPSALV has—Supervision of Salvage—we do not have any.

Senator LOTT. Do you need them?

Admiral YOST. As long as the Navy has them, I do not think that we ought to spend the taxpayers' dollars to duplicate that. Navy SUPSALV has always been very forthcoming with those skimmers. They are air-deployable. We have the big sea skimming boom. They do not have the boom. We have that. They have the skimmers, so I think it works very well.

But let me say that the more equipment that we need to stockpile in view of this accident, the more we need to put the strike force with it. We now have 67 people on our total strike force. They are well-trained. They operate throughout the world; they exercise constantly; they have their equipment that is air-deployable; they are very good. They are also very costly. If we increase the equipment and what we are going to have to do, we need to increase the people and the training and everything that goes with it.

Senator LOTT. My time has expired. I hope that you will be prepared at some reasonable point in time to make some recommendations on this and the entire area an action that we may take.

Senator KERRY. Thank you. Senator Gore?

Senator GORE. Thank you very much, Mr. Chairman. Just following on this question, I am informed by staff that the records indicate that more than 10 or 12 years ago the Coast Guard purchased a skimmer 100 times the size of the ones currently being used in Prince William Sound, but nobody can find it now. Can you shed any light on that?

Admiral YOST. 100 times the size of the skimmer?

Senator GORE. Purchased from Samson Ocean Systems. Well, if you do not have information on it——

Admiral YOST. Senator Gore, I was not paying the attention I should have been. I apologize. Please ask me that question again.

Senator GORE. You will probably have to respond for the record. I will simply repeat the question briefly and then move on to what I had intended to explore. Staff informs me that the Coast Guard purchased a skimmer some 12 years ago from Samson Ocean Systems 100 times the size of the ones now being used in Prince William Sound, but the Coast Guard does not know where it is now.

Admiral YOST. I would like very much to meet with your staff, because I have never heard of such a thing.

Senator GORE. All right. Well, we have the information. We will be glad to follow up with you on that.

Let me just say, Admiral Yost, that I have had a personal experience on more than one occasion dealing with you and with your staff and I have always been very impressed with your seriousness of purpose and dedication to the responsibilities given to you—and I am genuinely impressed. I would like to join in what I understand has been a kind of a generally praiseworthy reaction to what the Coast Guard has done at Prince William Sound.

I really cannot do that, and I say that with some personal regret, because I do have such respect for you and your abilities, but I just do not see it. You came here April 6th and in response to questions said nothing else is needed, we have got it under control and now, more than a month later, there has not been much progress—1.7 miles has been cleaned up. That is the accepted figure.

Exxon is at fault, I understand all of that. But you are in charge now. Can you give us a time line? Where would you expect to be by the end of September?

Admiral YOST. Let me address the entire question and do that at the end. I think that you could feel comfortable in congratulating us on some very good work there. Since I have been here in April, we have off-loaded 42 million gallons of crude oil from a tanker that was sitting on a pinnacle that any time could have slipped off that pinnacle and had a 52 million gallon spill rather than a 10 million gallon spill. We pumped off 42 million gallons.

That was done primarily with a Coast Guard strike team and pumps that were flown out to the scene with the help of Exxon and Exxon's and our naval architects and engineers. That ship has since been refloated. It is anchored. It is not spilling any more oil, and it will probably be taken to a port and will be repaired. So that is the first thing we did, and that is very noteworthy.

Senator Gore. I agree that is worthy of praise. I agree with that. Go ahead.

Admiral Yost. The second thing that has been accomplished is all of the oil that is skimmable is now out of Prince William Sound. Mother Nature helped us by flushing; we also had as many as 10 to 30 skimmers and 200 fishing boats—Exxon did—in operation with boom, booming and skimming, and we picked up about 15 percent of the oil that was spilled. That has been suitcased, so to speak, and will be reprocessed or destroyed as necessary. Prince William Sound is now clean.

The third thing we did is save the entire salmon fishery in Prince William Sound by booming the hatcheries, with 100 percent success. I stood in Valdez last week and watched them release 24 million fingerlings of a total of 134 million release that will be released in the next week or two. Those fingerlings are proceeding out to sea through water that is not toxic and that is clean, and seven years later will come back as a major salmon harvest. That is a major, major accomplishment. Neither do I take all the credit for that. Certainly the State of Alaska, Exxon, the fishing associations, the native associations, all were deeply involved—NOAA, EPA—in that.

So those three things, I want to break my arm patting the Coast Guard on the back for.

Senator Gore. Let me again give you a hand on that. You deserve to be patted on the back for those things. What I am referring to is the cleanup of the oil that reached the coastline. The cleanup itself is what I am asking you to tell us about. What is the time line for progress there?

You have done an excellent job on the matters that you have referred to and you do deserve praise for it and I readily give it to you, but on the cleanup itself, you did tell us a month ago that nothing else was needed and a month later less than two miles has been cleaned up. It may be a virtually impossible task, but where will we be on the cleanup by the end of September?

Admiral Yost. Part of it is—to restore that area this summer is absolutely impossible. It will not be restored. That is part of the answer. Part of the answer is in a discussion that I will now share with you, with some reluctance.

I sat down with senior Department of Defense personnel and personnel from my own service who are experts in procurement and I said to them, can we do a better job than Exxon is doing in bringing equipment to the scene? Pumps and generators and heaters, and what have you. Can we do anywhere near as well?

I was told by those people, "No way." We could not do it. Our procurement system and Federal procurement regulations and the requirement for bids and the requirement for invitations for bids and requests for purchase, that system would not allow us to do what Exxon does.

Exxon picks up the phone saying, "This is Exxon calling to the factory; I want 300 of your units running $100,000 each, shipped tomorrow morning." The guy on the other end of the phone says, "Exxon, you bet." They are on the way. The check is in the mail.

They do not do that with the Federal Government, and neither can we make that kind of a call. There is no way the Federal Government, DOD, or the Coast Guard, or anybody else in the Federal Government could have stood up the amount of equipment that Exxon has done.

Now, I have got no portfolio for Exxon. I have trashed them in the press; I have jumped on them; I have been very nasty to them, and I may even do that in the future. But I have got to give them their due. They have done something that we could not do.

Now, when I came up here and said, I do not need anything else, it was because I realized that what Exxon was doing with their open checkbook was more than I could do, and if I asked you for supplemental appropriations, it is frankly more than you could do because you are even slower in getting me appropriations than I am able to get equipment through the Federal procurement system. Your system is even worse than the Federal procurement system in getting me money, and I have had it year after year.

That is why I was saying no, I do not need anything, Exxon is providing everything that we have asked. Now we had a little problem between Exxon and myself on the number of people they wanted to put on the beach. I wanted a substantial increase in the people that they were planning in their plan. We have had an arm-wrestling contest about that, and Mr. Stevens, I understand, will follow me, and he will probably discuss it.

The letter that I furnished for the record is a culmination of about a week of hard arm-wrestling at the top level of Exxon. It involves some people well above my pay grade in the government. Exxon is committed now to provide a substantially increased work force, with all of the logistics that that includes. I am going to keep the U.S.S. *Juneau* and the *McHenry* there to support that operation.

Senator GORE. Let me just finish up briefly and then I will be happy to yield back my time.

The bottom line on your exchange with Exxon after this one period of arm-twisting that you referred to is—and I quote your own words directed to the general manager of Exxon—you say, I remain seriously concerned that the investment of resources you describe will not be able to clean the 300 plus miles of shoreline in the time allotted.

So where it is left is, you properly rely on Exxon to do the main work. They go on television and pretend to make a commitment to do what is necessary, but when you get down to the details of what is really required they stonewall you. They refuse to put up the money that is necessary for them to meet their commitment. Is that not basically where it stands?

Admiral YOST. Well, that may be one view of it. Mine would be slightly more sympathetic in that they did not propose in their original plan the number of people that I felt I absolutely needed in order to tell the President that I thought we had a chance of doing a gross cleanup by the end of the summer.

Senator GORE. Why do you remain seriously concerned that what they are proposing will not be able to do the job?

Admiral **Yost**. Because I think the job is so extensive, the damage is so serious, and the disaster is so obvious. The cleanup ability and the amount of equipment that can be operated in that weather, in that amount of time, is relatively small. I am not sure that we are going to come together at the end of the season.

We have reached the end of the ability of anybody to send up more equipment, put more people on the beaches and support them. I think that what we have asked Exxon to do, and what they have now agreed to do, as of late last night, is as much as can be done. Yet I am not fully convinced—I cannot guarantee you—that we are going to have a cleanup that will suit me by the end of the summer. We are going to have a cleanup, but at what level depends on the weather, how well the equipment works, what innovations we can pick up, and a number of other things.

Senator **Stevens**. Would the Senator yield right there for just one comment?

Senator **Gore**. Yes.

Senator **Stevens**. When we examined this we found that the disaster law did not cover an oil spill. One of the great problems we have is, all the waivers that are in the emergency laws pertaining to disasters do not cover oil spills. We have to change that.

The other thing is, I would point out that my legislation before Congress now would make available $150 million of the fund that is created by the 5 cent tax on oil that comes through the Alaska Pipeline. We want to increase that up to $500 million, make $150 million of that available to Admiral Yost and the Coast Guard immediately.

Obviously, we have got to take the restrictions off that $150 million that you brought out in your questioning. So I thank you very much.

Senator **Gore**. You are most welcome. I appreciate the chairman's indulgence. I have gone over my time. A brief concluding comment. It is a little anomalous to say, on the one hand, that you remain seriously concerned that what they are proposing will not do the job and then on the other hand say this is a well-designed approach that needs elaboration.

It is a question of tone, I guess, but it is also a question of when you are going to let up on the pressure you are placing on Exxon. If you have remaining serious concerns that what they are proposing will not do the job, do not let up on them. Do not let up on them. They have got to meet their responsibilities. They have been dragged—kicking and screaming—toward a position of responsibility and they are still not there yet.

I have gone over my time. Thank you, Mr. Chairman.

Senator **Kerry**. Thank you, senator. I think that that is an important exchange and in a sense it brings us full circle to where we began the hearing and my questioning initially.

My concern extends a little bit beyond Senator Gore's, who expressed—and I share his concern about that statement and was intending to draw attention to it myself. But paragraph one in your letter says that the following list of items, once accomplished, will result in a plan I can and will support.

Item 1, substantially increase your work force, with a view toward increasing. Now, my question—the first part of my question—and we need to move on because we have three important panels that are waiting and we want to hear from each of them and need to hear from each of them.

But, what does substantially mean—with a view toward? Is that sort of an open window here, because I have heard what I think is one of the most important admissions that we have had with respect to this process since it began. I think this is the first time the person in charge of the cleanup has said this is going to be a limited cleanup.

I think it is the first time the person in charge of the cleanup has said, we are not going to get those beaches restored back to their natural state. I think it is the first time the person in charge of the cleanup has said, we may not even make it.

Now, balanced against that you have a request for a substantial increase. Now, does substantial mean to Exxon—who have said, we are going to do it. We are going to spend the money. We are going to clean up.

A lot of money was spent on advertisements expressing culpability and reestablishing an image—but does substantial in your mind mean that they must come back to meet that September 15th deadline, or is it just enough, with a view toward cleaning up, to allow them to be able to say well, we are going to get to the September 15th deadline and then we will bite the bullet?

Admiral YOST. Substantial in my mind, talking about the Prince William Sound cleanup, and adding to that the clean up outside of Prince William Sound, which one of these points the letter makes. Those two points—substantial increase and an added force outside of Prince William Sound—are going to approach the doubling of the workforce that Exxon proposed in their initial plan. I said, no, that plan is not sufficient. I said that I don't think that you are going to be able to clean 3,000 miles of shoreline in the time allotted.

Senator KERRY. Will a doubling do the job? Will a doubling eliminate the concerns Senator Gore referred to?

Admiral YOST. Well, I do not think it would. If I thought that there was a chance that a force 10 times that could be adequately hired, trained and equipped to work up there, then I would want a force 10 times that. This has been the arm-wrestling, if you we will, with Exxon, as I've gone through with Exxon's people, having a knowledge of what it takes to support people on the beach, having a knowledge of how many heaters are available, how many generators are available, how many might boats, ramp boats to support this, how many hotel ships are available. We have only got a window this long and how you can get that stuff on line.

I have come to the conclusion that this is the most that can be done.

Senator KERRY. Admiral, I want to, first of all, thank you for you candor. I think it has been very important, and I think it is important. And it is somewhat of a shame, perhaps, that it is May 10th and we are here, 40 days afterwards, and now we are getting this appraisal of reality, perhaps. And if I were in Alaska right now, I think there would be a lot of people saying—and maybe they have come to that conclusion.

Senator **Stevens**. But you put your finger on it really. It is the feeling of frustration we have that we hear when there is yet another beach oiled or there is another report of loss of our wildlife. And I really think that Admiral Yost has told you what he has told me before, and that is that there is a limit here and it is the time frame, if you do not get this done by September 15th, you are not going to do it this year.

And it is a question of what can be humanly done this year. The problem with us is that we are facing this massive clean up when so many people feel it was inevitable that it would be this big. We want to go back and say, what could have been done to prevent this spread? What could have been done to contain it? And that is the thrust of the legislation that I have discussed with you.

And if this had happened in the Virgin Islands or it happened in Panama with Alaskan oil, under the U.S. law, we have to follow that oil. You have to follow it wherever it goes. And you are in charge of recovery. I do not know if you know that. Alaskan oil is unique in that sense because we created a fund and we have established strict liability, liability without fault really, in terms of that legislation.

You can bring to the fact that we should not be misled; we are not going to have totally clean beaches by the end of this summer. I think you are right. We have got to face up to the fact that it cannot be done in one year.

On the other hand, the state people are coming up next here, and they are going to tell us that we have established some priorities; Admiral Yost has worked with our state people in that regard. And I think you will find that those priorities are important. There is one, Smith Beach, in the pupping area, that is extremely important. That small beach is being given priority attention right now. Those are the areas that we are most concerned about. We must ask where will the most substantial damage come from a failure to clean it up this year?

We want to keep our eye on the ball and that is what is obtainable in the areas of top priority. And it must be done there, because if that goes over two years, we have got real problems.

Thank you for your attention.

Senator **Kerry**. I thank you, Senator. And we are going to work very closely together and hopefully we can pull the other legislative pieces together in a significantly more rapid way than we are able to do with our appropriations process.

Admiral **Yost**. Could I make a comment?

Senator **Kerry**. Absolutely.

Admiral **Yost**. I think that what you pointed out is true. My view of this thing in April, though I did not realize it, is considerably different than my view now. I guess my Secretary, Sam Skinner, said it last week when he was in Alaska with me, and the Vice President said the same thing to the press. They looked at the press in separate encounters and they said, you have got to be here to understand the problem. You cannot sit someplace else and envision the time and distance factors and the nature of this disaster until you are here and in the middle of it.

And I thought to myself, reality is setting in. And when I stood on the beach last week after 10 days of cleaning, I tell you, I could have cried when I saw that beach. Because I realized 200 men for 10 days, men and women, had worked on that beach and I could reach down four inches and come up with both hands full of oil. And I thought to myself, how are we ever going to do this? And that is Exxon's problem. How are they going to do it?

But the reality of it is, we are not going to restore those beaches this summer. We are going to clean them. Hopefully we are going to clean them. If I could get any more men up there, if I could tell Exxon I want 10,000 men, I would do it. But I just do not think reality will allow 10,000 men. I think what we have agreed to is reality, and it is the most they can do. And I am going to hold them to it.

I would like to be able to say, they are not doing enough; make them do more. But reality set in, and I know what the art of the possible is.

Senator KERRY. I appreciate your helping us to focus on that, and to understand what it is that we need to look at, at this point in time. I think all of us remain deeply concerned about the what-could-have-beens here, in terms of this tragedy. And we are obviously going to try to do our best to guarantee that we do not wind up saying that again at some time in the future.

Admiral, thank you very much for taking the time today. And again thank you for you diligent efforts on this. We are very appreciative.

I would like to ask the next panel if it would come forward as rapidly as possible.

Commissioner Kelso, Captain Bartholomew and Mr. Williams Stevens.

Gentlemen, I must ask you, if you would, because of the time frame we are running under, to summarize as well as possible. And your full text will be submitted for the record, obviously. We do want to have time to question you. I do not want you, obviously, to not be able to say the things that are important to you, so I am not going to hold you to a strict five minutes, but be as close as you can, if possible.

Commissioner Dennis Kelso of the Department of Environmental Conservation of the State of Alaska will lead-off.

STATEMENT OF DENNIS KELSO, COMMISSIONER, DEPARTMENT OF ENVIRONMENTAL CONSERVATION, STATE OF ALASKA

Mr. KELSO. Thank you, Mr. Chairman.

I will be as brief as I can be, and will be saving specifics about the spill for discussion and any questions you have. I brought some charts, but I will not be referring to those unless you have questions.

My name is Dennis Kelso, I am the Commissioner of the Alaska Department of Environmental Conservation. And in order to be brief, I will not summarize all of this incident, but I will bring your attention to several key points.

The key points are: First, the industry's response during the first critical 72 hours of the spill was ineffective in part, because of Alyeska Pipeline Service Company's decade long efforts to scuttle any meaningful oil spill contingency plan.

Second, Alyeska failed to carry out its oil spill plan and Exxon was unprepared and unable to implement an effective response.

Third, both companies' response in the following weeks has sometimes been reluctant and shortsighted, characterized by stalling techniques, misinformation and refusal to pay real attention to damage outside of Prince William Sound.

I was present in Prince William Sound nearly every day during the first five weeks of the spill. The enormity of the disaster continues to stagger my imagination.

According to the most recent overflights, oil from the Exxon Valdez has, in one form or another, already reached near-shore areas of the Alaska Peninsula. That is roughly 550 miles—550 miles by air, not miles of coastline, southwest of Valdez.

If this had happened on America's Atlantic Seaboard, oil, filthy foam and tar balls would be washing up on the beaches from Cape Cod, down Long Island Sound, down the sandy beaches of New Jersey, around Cape May, down to the mouth of the Chesapeake Bay, and perhaps, into the Potomac River itself.

Mr. Chairman, you can see why the State of Alaska and the people of Alaska continue to keep intense pressure on the reluctant corporations of Exxon and Alyeska Pipeline Service Company, to attack and clean up this mess in an effective manner.

Concerning the first 72 hours of the spill, let me describe an example of the corporate response to events.

The Exxon Corporation has, over the past few weeks, deliberately attempted to portray the company's response as hampered by state government. The most recent and most flagrant abuse of misinformation occurred in the May 8th issue of Fortune Magazine, in which Exxon's chief executive officer, Lawrence Rawl, repeated untrue statements about the company's supposed efforts to use chemical dispersants from March 24th through 27th.

I believe these statements are part of a deliberate disinformation campaign. Exxon's apparent strategy is to try and hide from the public the industry's disheveled state of unreadiness on March 24th, the day of the *Exxon Valdez* crash onto the rocks of Bligh Reef.

The facts are quite different from Exxon's fabrication. First, my department approved use of dispersants in the area called Zone 1 on March 7th and 8th, weeks before the oil spill.

Second, test drops of dispersants on Friday and Saturday after the spill just did not work. The seas were too calm and the winds were light, the conditions simply were not favorable for the use of dispersants.

Third, Exxon had other problems, too. They did not have the equipment on hand to spray the huge amount of dispersants that the Exxon chairman now claims they would have used. And they had trouble hitting the targets when they did spray. In one case, Exxon's marksmanship was so poor they sprayed the tanker and Coast Guard personnel with chemicals instead.

The real issue, Mr. Chairman, is that Exxon and Alyeska were not prepared to respond to this oil spill. It was not a question of whether to use chemicals or mechanical means, because Exxon and Alyeska did not have enough of either one. They have never been ahead of the spill; they are still not thinking far enough ahead. And the clean-up effort has been greatly hampered as a result.

The record shows that Exxon and Alyeska simply did not have enough equipment and trained manpower on hand to deal with the spill. They did not have enough boom, they did not have enough skimmers and collections barges, they did not move quickly enough during nearly three days of flat seas, light wind and bright sunshine. They did not think big enough and they did not produce the results they had promised.

Mr. Chairman, I submit to you that it was Alyeska's and Exxon's inertia and incompetence that let the spill get out of control, not government. I do not mean to be critical of the many Alyeska and Exxon employees who are trying to do a good job and who have worked hard under difficult conditions. This is tough, sometimes dangerous work, and I want to recognize the efforts of those workers. Instead, my criticism is directed at the top levels of the corporate bureaucracy. The spill demanded wholehearted acceptance of responsibility and full-scale commitment of company resources.

How strange it must be for lower-level Alyeska employees when top executives decide that Alyeska should not even participate in clean-up field operations. And how confusing it must be for Exxon's clean-up staff and mid-level managers when Exxon's chairman and other top executives repeatedly try to blame someone else for their problems with the clean up. But that is exactly what is happening.

The seeds of this type of mentality were sown long ago, however. The industry has been attempting to weaken, not strengthen, contingency plans for the dozen years before this disaster.

A few examples. In May of 1977 the State of Alaska asked Alyeska Pipeline Service Company to have 12 miles of booming material on hand. The company insisted that 18,000 feet, about a quarter of that, was enough. It was not then, and it is not now.

In the six weeks since the spill, we have managed to scrape together 89 miles of boom, about 70 miles are in the water.

In March of 1982, when reviewing Alyeska's plan, we found that the company considered a 74,000 barrel spill the maximum probable spill. We said that was too low. Then, in May of 1986, we insisted the company plan for a spill of 200,000 barrels.

Please allow me to briefly quote from Alyeska's official response. "Alyeska believes it is highly unlikely a spill of this magnitude would occur. Catastrophic events of this nature are further reduced because the majority of the tankers are of American registry and all of these are piloted by licensed masters or pilots."

Mr. Chairman, it is clear to me that current regulations regarding the development of contingency plans need to be reevaluated.

This same attitude on the part of Alyeska's top management is also reflected in their intransigence on air pollution and water pollution. Both are major issues and Alyeska has balked at making the necessary improvements.

Last week Alyeska even filed a lawsuit in an attempt to block stronger controls on the discharge of hydrocarbons from their ballast water treatment plant in Valdez. This appalling insensitivity to the resources and people of Prince William Sound is amazing to me in light of the events of the last six weeks, but it is typical of the approach taken by Alyeska's corporate leadership in air pollution, water pollution and oil spill preparedness.

Concerning the efforts of Exxon to deal with the effects of the spill during April and into May, I would like to cite one salient example. On many occasions, Exxon's corporate emphasis on expedience has obscured the larger goal. I refer specifically to the lack of a realistic plan to clean up areas outside of Prince William Sound, and its failure to provide a written plan for overall clean up of oil from the water.

In Exxon's most recent sketchy outline of beach clean up outside of the sound, dated May 1, the company has proposed to leave so-called lightly-oiled beaches to be cleansed by natural forces.

Mr. Chairman, the test should not be whether oiling is heavy or light, rather, cleaning should be done wherever the benefits to the environment exceed the impacts of cleaning.

Exxon's May 1 plan is, in my opinion, indicative of the way in which the company has approached the whole idea of long-term clean up and restoration.

Further, Mr. Chairman, in considering legislation related to oil spill clean up in the future, I would urge you to keep this critical point in mind. The current structure is not adequate to deal with events such as the Exxon Valdez spill. Consequently, the respective roles of government and industry must be carefully examined and changed if we are to prevent disasters like this one from happening again.

Here are some areas Governor Steve Cowper and I believe must be addressed. And I will just summarize these.

Contingency plans. We must ask ourselves if the current set up, which allows the industry to write and implement the plan, makes sense. Government must be given the authority to take a more active role.

Tanker design. Essentially, tankers are little more than large cannisters with engines. Is there a safer design? Can modifications be made? These questions need to be answered.

Tanker operations. At the dawn of the 21st century, with the technology we have available, can we build an operations system that cannot be short-circuited by any individual person?

Tanker traffic. Better radio and radar coverage of the major lanes in and out of critical areas is needed. Improvements in tanker traffic management should be made through navigational aids, other safety measure, and central control at the port.

Equipment. To help make sure equipment can be located and deployed quickly, there should be a centralized computer inventory of available equipment. Further, we believe there are oil spill response systems and technology available in the world, Norway, for example, that are superior to that available in the United States. Research and development to improve containment and recovery technology is also essential.

Planning and logistics. Computerized mapping of coastal areas, along with weather and oceanographic information, can be combined in a data base designed specifically to help us all respond more quickly and directly to future spills.

As a starting point for your consideration, I have submitted as an appendix to my remarks testimony Governor Steve Cowper gave before the Senate Environment and Public Works Committee last month. It outlines concrete steps to be taken in three areas: prevention, response and emergency funding. We look forward to working with you in developing these ideas.

Mr. Chairman, I would be happy to respond to any questions. I might point out one thing, based on your conversation with Admiral Yost, and that is to remind you that this spill is still going on. Everyday new areas are being hit, animals are being injured and communities are receiving the impact of this massive disaster.

As Alaskans, and I think the American people share this with us, we expect Exxon to get the job done right, not to limit their clean up to what is readily achievable or conveniently feasible. What we really expect is delivery on what Exxon has promised.

Thank you, Mr. Chairman.

Senator KERRY. Thank you very much, Commissioner.

[The following information was subsequently received for the record:]

Questions from Senator Danforth
for Commissioner Kelso

(1) Should agglomerants or other non-dispersant chemicals have been used extensively within the first few days after the grounding?

(2) You were shown on television during the first day after the spill saying that the State opposed burning of the spilled oil. In retrospect, would it have been better to have blown up and burned all the oil and the vessel right away, while the oil was still volatile and before it had spread? Was that option considered? What were the criteria for making that decision?

(3) Under State law, the Dept of Environmental Conservation must approve contingency plans and may attach necessary conditions to its approval. What was your role in reviewing the plans for the Sound?

On page 3 of your statement, for example, you note that you asked for more boom than you got. Why did you not reject the plan under State law?

Similarly, on page 4, why did you not reject the plan under State law when you didn't get an adequate plan for a 200,000 barrel spill?

(4) There have been reports that the City of Valdez passed a tax on oil company property, the revenues from which would have been devoted to containment and cleanup equipment and materials. The same reports said that the State legislature and Governor blocked that tax. Is that true? What was the Governor's position on that issue?

(5) What is the status of civil and criminal proceedings by the State against Exxon, the crew, or others relating to the spill?

(6) What new restrictions or measures has the State imposed on tanker traffic in the Sound since the spill?

ANSWERS FOR SEN. DANFORTH

1. Neither Exxon nor Alyeska Pipeline Service Company had the chemicals or the aircraft to take that kind of approach. Each spill is different. In this case, weather and circumstances (lack of other agents, for example) favored mechanical cleanup. That mechanical cleanup was slow and inadequate.

2. a) There were test burns, but the oil did not ignite adequately. b) In a more general sense, my agency's concern was for the people in the villages that would be downwind of a major burn. c) We did, briefly, talk about blowing up the ship. However, Exxon wanted to salvage the vessel and we felt there were too many logistical questions to solve in too short a time. Please remember: During the first two days the state and the Coast Guard were continually assured that booms, skimmers and barges were "on the way," so we fully expected a fullscale mechanical cleanup to proceed during that window of nearly perfect weather.

3. I have attached a brief document that explains both the State's statutory responsbility for reviewing contingency plans, as well as the history of the approval of the Alyeska plan.

Specifically, we did "reject" the plan, in that we went back to the discussion table with ADEC and Alyeska staff to forge an acceptable plan that was eventually approved. I wasn't calling attention to those facts to imply that the plan itself was inadequate. In January of 1989, we had what was then considered a large spill: 1,700 barrels from the T/V Thompson Pass. In that case, Alyeska took the plan on paper and turned it into actual results; the spill was contained and recovered roughly according to plan. If Alyeska and Exxon had followed the approved contingency plan in March, we would have had a very different spill. However, they didn't follow the plan. This was a failure of implementing the plan, not a failure of the plan itself.

My purpose in raising the history of our negotiations with Alyeska was to illustrate an attitude and an approach the company adopted virtually from the first days of its existence. Alyeska and other oil companies have consistently challenged the state's authority to require state contingency plans, as well as a number of other regulatory efforts aimed at improving safety and preparedness. If companies were truly concerned with protecting the public and the environment, they would be more cooperative with government's efforts to improve safety and preparedness.

4. The events you describe occurred under another state administration, so neither Gov. Cowper nor I can respond to the policy considerations that went into a previous Governor's decision. However, as I recall, the dispute was not over the purpose of the property tax. It involved a dispute over state tax laws that set an upper limit on local taxes on industrial facilities.

5. Capt. Joseph Hazelwood has been charged with several criminal counts, all of them misdemeanors. His trial is set for Valdez later in October.

The State of Alaska has filed in Anchorage Superior Court a suit seeking actual and punitive damages resulting from the spill. No hearings have been set and no other motions have been filed.

6. Shortly after the accident, the Governor and I, through our emergency authorities, required Alyeska to add for each transit of a loaded tanker two escort vessels with towing and oil spill containment and recovery capabilities. On Sept. 20, the loaded tanker Atigun Pass lost power and drifted briefly outside of Valdez, only to be brought under control and towed by the escort vessels. The new system averted a certain disaster.

The State has also required stepped up response abilities at the terminal, from recovery crews to barges and containment gear. We have required licensed pilots to stay on board vessels farther out in Prince William Sound. Outside of the Sound, we are putting together a stepped-up safety program for tanker traffic in areas such as Cook Inlet.

Unfortunately (from our perspective), the State has limited authority to regulate tanker operations in marine waters, since much of that authority rests with the federal government. In 1978, the Alaska Legislature passed strict laws governing tanker traffic, but oil companies, including Exxon, challenged the laws and they were struck down in federal court.

QUESTION FOR: MR. DENNIS KELSO, DEPARTMENT OF ENVIRONMENTAL CONSERVATION, STATE OF ALASKA
FROM: SENATOR LARRY PRESSLER

1. Are current damage assessment procedures able to adequately address the particular circumstances of the Valdez oil spill, such as the cold climate and contamination of isolated, rocky islands in the vicinity?

ANSWER TO QUESTION FROM SEN. LARRY PRESSLER

1. Gov. Cowper and the State's CERCLA trustee, Commissioner Don Collinsworth of the Alaska Dept. of Fish and Game, have both expressed concern over the federal government's approach to damage assessment for the Exxon Valdez disaster. We have deferred to Mr. Collinsworth for a response to this question.

Attachment

THE ALASKA STATE APPROVAL PROCESS FOR ALYESKA PIPELINE SERVICE COMPANY'S OIL SPILL CONTINGENCY PLAN FOR PRINCE WILLIAM SOUND

The National Transportation Safety Board has asked for information and background regarding the State of Alaska's approval criteria used in review of oil spill Contingency Plan. This summary references those criteria, explains them and outlines their application for review of the Alyeska Pipeline Service Company Contingency Plan for Prince William Sound during the period from 1977 to 1989.

I. APPROVAL CRITERIA

Criteria for submittal, review and approval of Contingency Plan exist as State regulations. The current regulations have been attached as an exhibit. See 18 AAC 75.305 to 395 entitled "Oil Spill Contingency Plan." Pertinent sections of these regulations are highlighted below.

Section 325 "Contingency Plan contents" provides details of the information that must be submitted by owners of large oil terminal facilities or by owners, charterers or operators of oil tank vessels. Such information includes estimates of the size and behavior of oil spills expected to occur during the lifetime of the operation. Also required are tables of equipment to be used to clean up oil spills. This section asks for procedures for use of chemicals for oil spill control. Other information includes estimates of response time to contain and to clean up an oil spill.

Section 335 asks for more Contingency Plan information from operations of oil terminals. This additional information includes predictions of oil spill movement, based on local weather and currents. Terminal operators also list environmentally sensitive areas in areas that might be affected by oil spills, such as salmon streams, waterfowl nesting areas, marine mammal areas, salt marshes, and so forth. This section further asks for descriptions of areas of public concern that might be affected by oil spills such as parks, historical sites, boat harbors, and so forth.

Section 345 asks for more information by owners or operators of tank vessels. Of note is information about special towing equipment and fittings.

STATE OF ALASKA

Section 355 "Approval criteria" details the standards by which the State will approve a Contingency Plan. These include having equipment adequate to safely clean up the most likely spill, mentioned in Section 325, within 48 hours. Also, the plan must set forth the response capability to protect sensitive environmental areas before predictions of spill movement show impact to those areas.

Section 375 provides for the conduct of an exercise for the purpose of testing the adequacy of the Contingency Plan and its execution. In addition to this regulation, the State reviews the conduct of the Alyeska spill response team in responding to oil spills which occur from time to time. The last such spill involving a leaking tanker vessel prior to the grounding of the EXXON VALDEZ occurred on January 4, 1989, and the State concluded that Alyeska's response to this accident was adequate.

II. HISTORY OF CONTINGENCY PLAN REVIEW

The Federal Trans-Alaska Pipeline Authorization Act required Alyeska to develop a Contingency Plan to clean up oil spills. Under the TAP Act, the authority of State approval for the Contingency Plan was limited to on-land oil spills. The State had no TAP review authority for those sections of the Contingency Plan dealing with the Valdez Marine Terminal and Prince William Sound.

In mid-1977, State pipeline biologists and the Alaska Department of Environmental Conservation officials recorded concerns about adequacy of Contingency Plan for the terminal and Prince William Sound. Despite objections from State officials, those Contingency Plan were approved by the Federal Government and start-up of pipeline operations began.

By September 1977, the State enacted regulations that allowed for Contingency Plan authority. On December 22, 1977, State inspectors found that equipment specified in the existing Alyeska Contingency Plan for Prince William Sound was missing, broken or untested. Alyeska had also failed to notify the State of nonreadiness of various cleanup equipment.

On February 1, 1978, the State advised Alyeska of pending State review of the Terminal and Prince William Sound Contingency Plan and the violations of Contingency Plan regulations.

Meanwhile, in mid-September 1977, Exxon and seven other oil companies and shippers filed suit to restrain the State from enforcing its Contingency Plan regulations and other tanker safety laws. In mid-1978, the Supreme Court struck down Washington State law that regulated tanker safety features. Alaska had joined that action. As a result, the Alaska oil spill contingency regulations were repealed and repromulgated in September 1981.

On January 17, 1981, in 70 knot winds in Hinchinbrook Entrance, the tanker PRINCE WILLIAM SOUND lost power for 17 hours and drifted 28 miles across Prince William Sound. Salvage tugs could not pass a tow line because of rough seas and lack of steam for winching cables aboard. The tanker regained steam power only 1500 yards from going aground near Columbia Glacier. When State Contingency Plan went into effect in September 1981, they included the provision calling for emergency towing devices aboard tankers.

On November 13, 1981, Alyeska resubmitted the Valdez Marine Terminal and Prince William Sound Contingency Plan for State review and approval. On March 23, 1982, the State advised Alyeska that these Contingency Plan contained deficiencies, including estimated size of most likely spill, inadequate response times, citing criteria contained in the 18 AAC 75.

On April 22, 1982, Alyeska requested an adjudicatory hearing to appeal the State's March 23 decision. Alyeska questioned the State's jurisdiction over Alyeska's Contingency Plan for Prince William Sound.

On June 22, 1982, Alyeska submitted an addendum to their Contingency Plan which provided equipment response and calculations to show that a spill of 100,000 barrels in the middle of Prince William Sound could be cleaned up in less than 48 hours.

In January 1983, after Alyeska had demonstrated spill response and tanker towing capability in an exercise, the State approved the Contingency Plan for three years.

On May 1, 1984, State inspectors reported severe personnel cuts in the trained oil spill response teams at the Alyeska Valdez Marine Terminal. Oil response training programs were being reduced. The reliability of outdated oil recovery equipment was questioned by State regulators.

On October 17, 1984, Alyeska conducted an exercise to demonstrate their response capabilities to oil spills. Response efforts failed to contain the hypothetical spill. Certain boom and vessels appeared inadequate. Alyeska commented that they would have responded differently if this had been a true spill, indicating to the State that Alyeska's Contingency Plan failed to provide a sufficient commitment to training of those assigned the spill response team.

In response, the State began requiring Alyeska to submit detailed information regarding oil spill training programs. Training programs were broken into elements according to equipment and response actions. Alyeska submitted detailed lists of personnel and their individual records of monthly training were compiled.

In mid-1985, Alyeska hired a new oil spill coordinator, amid State concerns about Alyeska's failure to follow up on prior commitments made after oil spills on ways they could improve their Contingency Plan.

In late 1985, the State dedicated staff time to a lengthy, deliberate process of reviewing the Terminal and Prince William Sound Contingency Plan and conducting inspections and exercises to ensure the plans were implemented.

On May 1, 1986, after months of exchanges of plan information and review, the State advised Alyeska of a number of issues that must be formally addressed in the next version (the current 1987 version) of the Contingency Plan. The State requested Alyeska to address their response to larger spill scenarios. Specifically, the State requested Alyeska to prepare and submit a 200,000 barrel spill scenario in Prince William Sound resulting from a tanker collision or grounding. The State also asked Alyeska to add a section to the Contingency Plan dealing with the use of dispersants.

After several meetings and exchanges, on October 3, 1986, Alyeska responded. They presented studies and statistical information that a spill of 200,000 barrels would only occur once every 241 years. They stated that, within the expected 30-year lifetime of the Valdez Marine Terminal, the most likely spill volume would be 1,000 to 2,000 barrels. Alyeska also provided dispersant information for Exxon's Corexit 9527, assuming a dispersant to oil ratio of 1 to 20, and other information.

In their October 3, 1986 letter, Alyeska described their intended response to a 200,000 barrel spill about 30 miles out in Prince William Sound. They believed it highly unlikely that a spill of this magnitude would occur (estimating one such spill would occur every 241 years), especially with licensed masters operating tankers of American registry. Their spill movement predictions indicated impacts to Eleanor Island, Naked Island, Lone Island and the Main Bay shoreline, among other areas. Their response stated that two oil skimmers and 4,500 feet of boom would be on-scene in three hours. A barge, one more skimmer, and 3,000 more feet of boom would be on scene in five hours.

On October 23, 1986, the State requested Alyeska address protection of fish hatcheries in the Contingency Plan, specifically the Main Bay hatchery, predicted for impact from the 200,000 barrel spill. The State asked for details on stockpiles and transportation times for dispersant use and advised that, once the Regional Response Team approved dispersants for use in Prince William Sound, those details be added to the Contingency Plan.

After reaching agreement on the use of dispersants in Prince William Sound in 1986, on March 20, 1989, the Regional Response Team specifically approved the zone designation plan for the Sound. The agreement provided for State preapproval of the use of dispersants in Zone 1. The use of dispersants in Zones 2 and 3 is authorized after receipt of concurrence by the EPA and the Alaska Department of Environmental Conservation to protect sensitive wildlife and other resources.

Senator **Kerry**. Before I turn to Mr. Stevens—it is probably a good thing we have Captain Bartholomew sitting between you there, but Captain you can handle it—I need to beg your indulgence for a minute. I am required over at the Foreign Relations Committee, where we are doing the FSX, and I think a vote. And so Senator Breaux has agreed to chair momentarily while I am gone, and then I will return, hopefully, as soon as I can. And I appreciate that.

Senator **Stevens**. Mr. Chairman, I am due at another meeting here in about five minutes. What is your intention, may I ask, in terms of when we come back? Are you going to continue with these panels?

Senator **Kerry**. No, Senator Breaux is going to continue. Right now we are going to continue through all of these panels, absolutely.

Senator Stevens, given your times constraints, I am not going to ask any questions, why don't you?

Senator **Stevens**. I am not going to ask any questions now either. I am going to go to this other meeting and come back by about noon. I assume you will be back here.

Senator **Kerry**. We will be continuing.

Senator Breaux?

Senator **Breaux**. Captain?

STATEMENT OF CAPT. CHARLES A. BARTHOLOMEW, U.S. NAVY, DIRECTOR OF OCEAN ENGINEERING, SUPERVISOR OF SALVAGE AND DIVING, NAVAL SEA SYSTEMS COMMAND

Captain **Bartholomew**. Good morning. I am Captain Charles A. Bartholomew, the U.S. Navy Supervisor of Salvage, and I work in the Naval Sea Systems Command here in Washington.

Thank you for this opportunity to provide an overview of the U.S. Navy's oil and hazardous substance spill containment clean up, removal and recovery program.

I will summarize my statement here, and ask that my full statement be included in the record.

In response to growing public and congressional concern during the 1970s to maintain a cleaner environment, the U.S. Navy embarked on an ambitious campaign to establish and maintain an extensive inventory of oil and hazardous substance spill-response equipment.

The Chief of Naval Operations directed that the Commander, Naval Facilities Engineering Command, develop and procure suitable equipment for combatting spills in Navy ports and harbors.

This equipment, consisting primarily of light-weight skimmers and containment booms, is in place in all Navy bases and home ports should minor spills occur.

The Naval Sea Systems Command was tasked with providing the equipment necessary to support conduct of major spill response operations incident to ship salvage or in the open ocean.

Today, we believe the NAVSEA inventory to be the largest and most capable of its kind available anywhere in the world. The core of this inventory is its fleet of 24 Marco Class V oil skimmer systems, supplemented with 25,000 feet of heavy-duty containment boom and associated boom mooring systems, vessel-of-opportunity skimmer systems, tow boats and other support craft, large fender, hydraulicly-powered submersible pumps, hot tap systems, oil storage bladders, plus a variety of support systems, including repair shops, command complexes and communications.

This equipment is all of straightforward design, it is durable and it works.

Within the Naval Sea Systems Command, the Office of the Supervisor of Salvage is charged with worldwide responsibility for the Navy's ship salvage and oil pollution response.

Our entire inventory of spill-response equipment is configured and packaged for immediate service or air shipment to specific spill sites. The equipment is maintained through NAVSEA commercial contract and stored within its worldwide Emergency Ship Salvage Material (ESSM) system.

Full-time maintenance and support personnel are on call to mobilize with the equipment to maintain and operate it at the spill site.

One or more NAVSEA military or civilian personnel meet the equipment to provide Navy on-scene management.

The Chief of Naval Operations has also directed that the Naval Sea Systems Command develop a series of 32 oil spill contingency plans having worldwide coverage. For each geographic region there is a predesignated Navy On-Scene Coordinator (NOSC), an organization, identification of regional and on-call spill-response assets, and related support.

These contingency plans emphasize prompt, decisive action. Twice annually we conduct oil spill response exercises in a Navy-occupied port. This provides an excellent opportunity to validate the local contingency plan, exercise the spill-response equipment, sustain proficiency of operating personnel, test new or improved equipment, and refine operational tactics.

Although specifically procured and maintained for immediate response to Navy oil spill incidents, provisions are in place under the National Contingency Plan to utilize this equipment in any non-Navy national emergency.

During calendar year 1989, for example, we have responded with equipment and operating personnel to three major oil spill incidents.

In February we dispatched a Class V skimmer system and containment boom to Antarctica to assist a National Science Foundation and the Argentine Navy in oil containment and offloading operations resulting from the sinking of the vessel, Bahia Paraiso.

In early March we flew diesel and hydraulic pumping systems to the stranded tanker, *Exxon Houston*, off Barber's Point, Hawaii.

And in late March and early April we airlifted approximately 700 tons of oil spill response equipment, including 22 of our 26 skimmer systems, to Valdez, Alaska.

More detailed information has been provided in the complete report delivered to committee members and staff. I assure you the U.S. Navy is making every effort to preserve our environment and that we remain fully prepared to handle our oil spill problems should they occur.

Thank you for this opportunity to explain our spill response posture.

[The statement and questions and answers follow:]

STATEMENT OF CAPT. CHARLES A. BARTHOLOMEW, U.S. NAVY, DIRECTOR OF OCEAN ENGINEERING, SUPERVISOR OF SALVAGE AND DIVING, NAVAL SEA SYSTEMS COMMAND

INTRODUCTION

Honorable Chairman and members of the Senate Commerce, Science and Transportation Committee. Thank you for this opportunity to provide an overview of the U.S. Navy's oil and hazardous substance spill containment, clean-up, removal and recovery program. I will explain how the Navy is organized to deal with oil spills, what equipment we have available and how we use it.

NAVY ENVIRONMENTAL PROTECTION PROGRAM POLICY

OPNAVINST 5090.1 outlines the Navy's environmental protection program. With regard to oil spill response, the Naval Facilities Engineering Command (NAVFAC) has technical support responsibilities for harbor-related spills and the Naval Sea Systems Command (NAVSEA) has technical and operational support responsibilities for open ocean and incident-to-ship-salvage spills. The responsibilities of the U.S. Navy Supervisor of Salvage, as NAVSEA's internal agent for salvage and oil spill response, are addressed in OPNAVINST 4740.2E and NAVSEAINST 4740.8. In addition, the entire Naval establishment is subdivided into 32 regional zones of on-scene command responsibility. These inter-relationships and responsibilities emphasize the extreme importance of thorough contingency planning and immediate, decisive execution by all Commanders at all echelons in the event of a Navy oil spill disaster.

OIL SPILL RESPONSE EQUIPMENT

In the early 1970s, in response to a rapidly escalating national environmental awareness, NAVSEA embarked on an innovative program to design and procure an inventory of oil spill response (often referred to as pollution abatement) equipment intended to be maintained in ready-for-issue (RFI) condition for flyaway response to a major Navy oil spill anywhere in the world. RFI equipment is now, in fact, in place and maintained in the Navy's Emergency Ship Salvage Material (ESSM) System for immediate deployment as required. The equipment is simply designed, durable, and it works. Exhibit 1 lists the major types, quantities and location of spill response equipment husbanded within the ESSM System.

THE SUPSALV OFFSHORE OIL SKIMMER SYSTEM

The SUPSALV MARCO Class V skimmer is an aluminum-hulled vessel 36 feet in length which has been designed for recovery of spilled oil from the surface of the water (Exhibit 2). The oil recovery mechanism is a rotating inclined sorbent belt assembly fitted to the skimmer's hull. As the skimmer vessel advances through the water, floating oil is intercepted by the leading belt assembly. Water flows through the "filter belt," but oil is retained by the rotating belt and is lifted from the water's surface and transported to the top of the incline where it is squeezed or scraped from the sorbent belt into the skimmer's sump.

Light to medium viscosity oils are recovered using a sponge-like filter belt made of reticulated polyurethane foam which has relatively large cell dimensions. Due to the cell dimensions and the oleophilic/hydrophobic characteristics of the polyurethane material, the water passes freely through the belt, but the oil is retained in the belt until the belt passes through squeeze rollers positioned over the sump. For recovery of high viscosity oils and solids, the polyurethane foam material is removed from the open (roughly 1/8-inch) mesh backing belt. Again, water passes freely through the backing belt, but viscous oils and solids are adsorbed onto the surface of the mesh belt. A scraper bar positioned over the sump (not used with the polyurethane foam belt material) scrapes viscous oils/solids into the sump. Large solids are removed manually from a debris screen over the sump. The skimmer's sump capacity is 1340 gallons. An on-board pump can offload the skimmer periodically to suitable storage, or offload continuously to a trailing barge or bladder.

The SUPSALV MARCO Class V skimmer vessel is self-propelled and can be operated in the independent skimming mode around piers and in other areas of reduced maneuverability. In this mode, aluminum sweeping plates are positioned to funnel floating oil to the 3-foot wide recovery belt. The plates increase the skimmer's sweeping width to 12 feet. Large oil spills in open waters are most effectively recovered by increasing the skimmer's sweep width by several orders of magnitude. This is accomplished by towing two legs of oil containment boom in a V (or funnel) configuration with the skimmer towed in the apex of the V. The standard SUPSALV offshore skimming system consists of a pair of powerful 24-foot towboats towing two 300-foot legs of boom with the MARCO Class V skimmer in the apex, and with a 26,000-gallon oil storage bladder towed astern of the skimmer. This arrangement allows a 200-foot wide sweep as the skimmer system encounters a floating oil slick, and the advantage of continuous oil recovery until the full bladder must be swapped for an empty one.

RECOVERY OF CRUDE VERSUS REFINED OIL

In recent years, the fueling requirements for U.S. Navy ships have been simplified as the Navy Fleet now burns exclusively a marine grade of diesel oil (diesel fuel marine or DFM). On the other hand, the Navy's Military Sealift Command (MSC) owns or charters tankers which transport a wide variety of petroleum products for Federal customers. In recent years, MSC has even moved crude oil for our strategic petroleum reserves. In addition, Navy shoreside power and steam plants burn heavy black oil which is moved on Navy or chartered barges and ships. The Navy must be prepared to respond to virtually all types of oil spills.

The Navy's lighter petroleum products such as diesel fuel, jet fuel and gasoline present very different response requirements than the heavy Bunker C's and other residual fuels. The lighter products evaporate into the atmosphere, dissolve into the water column, and spread out on the water's surface relatively rapidly. In the first 24 hours following a spill of some lighter refined oils, nearly 50 percent of the spilled oil will have dissipated. Up to 20 percent of the remaining oil will dissipate in each succeeding day. For this reason, these products are termed non-persistent. In many cases, recovery equipment cannot be mobilized rapidly enough to effectively combat these spills. In addition, particularly volatile products such as gasoline should not be contained and recovered for fire and explosion safety reasons. Chemical dispersion or diversionary booming to protect environmentally sensitive areas may be the only alternatives for combatting spills of these highly refined products. Because spills of these products are not persistent and do not leave the highly visible black residue on shorelines and wildlife, they are often considered less damaging than spills of the persistent heavy black residual oils. Unfortunately, these oils are in fact more toxic than heavy residual oils, and may be more damaging to sub-surface marine life because they dissolve more readily into the water column.

Though they are less toxic than the more highly refined products, the heavy residual oils are damaging to the environment largely because of their persistence. They remain on the water's surface for prolonged periods and tend to coat marine mammals and birds that come in contact with them. Because they are persistent, residual oils are better candidates for mechanical recovery than the more highly refined products. Conversely, they are generally considered more difficult to disperse chemically.

Because crude oils exhibit the visual characteristics of residual oils (they are generally thick and dark in color), they are often assumed to have the same properties as residuals. In fact, because they are unrefined, crudes are obviously a mix of all the products later separated through the refining process. Crudes therefore exhibit the most damaging characteristics of all the refined products. They have the toxic fractions that dissolve into the water column as well as the persistent residual fractions.

All the SUPSALV spill response equipment, and especially the MARCO Class V skimmer system, has been developed, procured and modified to maximize flexibility for response to all types of oil spills. The ability of the Class V to recover both high viscosity residual oils and low viscosity refined products has been addressed in the discussion of the SUPSALV offshore skimmer system above. In addition, all equipment system components have been selected for simplicity, durability, and maintainability, and with operator human factors in mind.

NON-NAVY OIL SPILL RESPONSE

Because it is designed for operations on the open sea, this pollution abatement equipment is the most capable in the entire United States inventory and may be considered a national asset. As a result, it is often employed for non-Navy spills, usually at the request of the U.S. Coast Guard. During calendar year 1989, Navy oil spill response equipment has been mobilized three times in support of non-Navy requirements:

1. To Antarctica to assist the U.S. National Science Foundation and the Argentine Navy in oil containment and off-loading operations for the sunken vessel BAHIA PARAISO,
2. Off Barbers Point, Hawaii, to help transfer liquid loads on board the stranded tanker EXXON HOUSTON, and
3. The massive oil spill response operation initiated by the stranding of the supertanker EXXON VALDEZ in Prince William Sound, Alaska.

NAVY SPILL RESPONSE OPERATIONS

Oil spill response effectiveness can be assessed from three perspectives:

1. Adequacy of contingency planning,
2. Identification and adequacy of available operating personnel and equipment resources, and
3. Command and control.

Contingency Planning

The Federal Government, through the National Oil and Hazardous Substance Pollution Contingency Plan (NCP), has developed a concept plan and organization for response to major oil pollution incidents. It establishes a National Response Team (NRT) composed of 12 Federal agencies, one of which is DoD. The Environmental Protection Agency (EPA) chairs the NRT. The U.S. Coast Guard, acting for the Department of Transportation, vice-chairs the NRT, mans the National Response Center (NRC) around the clock in Washington, DC, and is charged with monitoring responses to any major incident. The Coast Guard predesignates Federal On-Scene Coordinators (FOSC) in U.S. coastal areas, who are charged on a regional basis with monitoring or, if appropriate, directing all Federal response actions at the site of a designated spill.

It is within this national framework that the U.S. Navy must function to solve its own problems should they occur. The first step has been to develop and promulgate Navy oil and hazardous substances spill contingency plans. This massive effort is currently being performed at CNO (OP-45) direction by NAVSEA for each of the 32 designated Navy commands having regional jurisdiction. These commands are listed in Exhibit 3. An outline of a sample contingency plan is shown in Exhibit 4.

Equipment and Personnel Assets

The main battery of heavy duty Navy oil spill response equipment is that maintained by the Supervisor of Salvage within the ESSM System. The equipment is nearly equally split between the ESSM complexes in Stockton, California, and Cheatham Annex, Williamsburg, Virginia, with one additional skimmer system staged in Pearl Harbor, Hawaii. In each case, the equipment is specifically designed to be air transportable by C141 or C5A aircraft. Each

Navy port has its own NAVFAC-provided inventory of smaller skimmers, oil booms, barges, holding tanks, and related equipment required for minor, local spills. There is also a large amount of commercial equipment locally available in many geographic areas which can be leased or procured if necessary.

Twice annually we conduct oil spill response exercises in a Navy occupied port. This provides an excellent opportunity to validate the regional contingency plan, exercise the NAVFAC and NAVSEA spill response equipment, improve or maintain proficiency of operating personnel, test new or improved equipment, and refine operational tactics.

Command and Control

The governing Navy oil spill contingency plan provides the overall framework within which the predesignated Navy on-scene coordinator (NOSC) functions. For any major Navy oil spill, the NOSC must be decisive and responsive. If the FOSC determines that the NOSC's actions in dealing with the emergency are insufficient, he may relieve the NOSC of all responsibilities and take charge himself.

Upon notification of a major spill, it is imperative that initiation of the contingency plan be immediate and the NOSC's actions decisive. As in firefighting or in the stranding of a ship on an exposed coastline, time is critical. This is not an environment for timid souls. Local assets, however modest, must be immediately deployed. NAVSEA's ESSM bases must be placed on alert and, if air shipment is required, the Military Airlift Command tasked.

Funding concerns inevitably emerge to influence the NOSC's actions. In a majority of situations, the spilling ship and the NOSC belong to the same major claimant, and funding responsibility versus spending authority is straightforward. Nonetheless, funding matters cannot be permitted to retard prompt action.

Another major environmental issue centers on effective or non-effective use of chemical dispersants. Normally, dispersants are not used when mechanical removal techniques are effective because zero oil loose in the environment obviously has less impact than any dispersant-related residue, even if the preferred dispersant is applied under optimum conditions. Dispersants may be used only when approved by the FOSC with the concurrence of the EPA and other cognizant agencies.

Another environmentally sensitive recourse is the burning of the oil. In the BURMAH AGATE (November-December 1979) incident, the tanker was involved in a collision and during the course of salvage, caught on fire and burned for about 2 months. When the smoke cleared, all the oil in the ruptured tanks was gone and the ship was debunkered, towed out and sunk. In this instance, once the ship caught fire, the water pollution problem was alleviated. Attempts to reduce water pollution by burning spilled oil from the TORREY CANYON and EXXON VALDEZ, however, were unsuccessful.

Even when contingency planning is complete, the arrival of on-scene oil spill response equipment and operating personnel is timely, and a sound organizational team is in place, success cannot be guaranteed. The tactics of effective oil spill response are as variable as the sea itself. Type and quantity of oil spilled, environmental conditions (air and water temperature, currents, swells, wind, visibility, etc.) geography, logistics, and types of marine life potentially affected are all major factors which must be dealt with on a case-by-case basis.

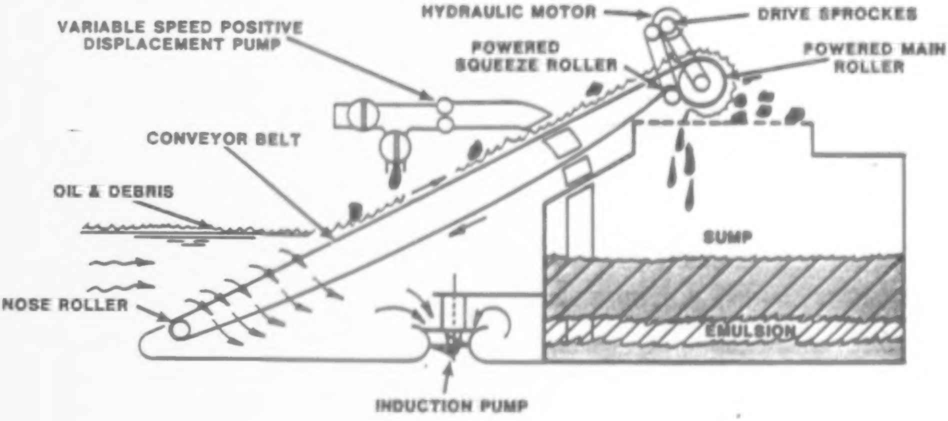
I assure you the U.S. Navy is making every effort to preserve our environment and that we remain fully prepared to handle our oil spill problems, should they occur. Thank you for this opportunity to explain our spill response posture.

EXHIBIT 1
MAJOR TYPES, QUANTITIES, AND LOCATION OF SPILL RESPONSE EQUIPMENT

			QUANTITIES		
	ESSM NO.	EQUIPMENT DESCRIPTION	CAX	STK	HII
1.	VA2113	BEACH TRANSFER SYSTEM	1	0	0
2.	BO0543	BOARDING KIT	1	2	0
3.	WB0722	24' BOOM HANDLING BOAT	8	6	2
4.	MS0009/11	BOOM MOORING SYSTEM	37	34	4
5.	WB0942	18' BOOM TENDING BOATS	4	4	1
6.	WB0730/32	INFLATABLE BOOM TENDING BOATS	2	2	1
7.	VA0720	BOOM VANS, 1980' BOOM	6	7	0
8.	VA2119	CLEANING SYSTEM VAN	1	2	0
9.	VA0719	COMMAND TRAILER	1	1	0
10.	VA0727	COMMAND VAN	3	2	0
11.	PH0921	COMMUNICATION SYSTEM, PORTABLE	1	0	0
12.	PH0922	COMMUNICATION SYSTEM, SHIPBOARD	1	0	0
13.	FN2071	FENDER SYSTEM	24	0	0
14.	FN2072	FENDER SYSTEM	8	0	0
15.	FN0002	FENDER SYSTEM	16	4	0
16.	FF0544	FIREFIGHTING SYSTEM	3	2	0
17.	HS0822	FLOATING HOSE	65	0	0
18.	HT0008	HOT TAP SYSTEM	4	2	0
19.	OB0800	136K OIL STORAGE BLADDER	6	4	0
20.	SR0815	OIL/WATER SEPARATOR	2	1	0
21.	VA0734	PERSONNEL BUNK VAN	2	0	0
22.	SK0711/12	MODULAR SKIMMING SYSTEM	6	5	1
23.	VA0010	RIGGING VANS	2	3	0
24.	VA0308	SHOP VANS	3	2	0
25.	SK0721	SKIMMING SYSTEM, NONMODULAR	6	6	0
26.	SK0723	STATIONARY OIL RECOVERY SYSTEM	2	1	0
27.	PU0280	6" SUBMERSIBLE POL PUMP	11	8	2
28.	SK0800	SKIMMING SYSTEM, DESTROIL	1	2	0
29.	SK0924	SKIMMING SYSTEM, VOSS (CL XI)	1	1	0

EXHIBIT 2
MARCO Class V Skimmer
(Equipment Illustrations)

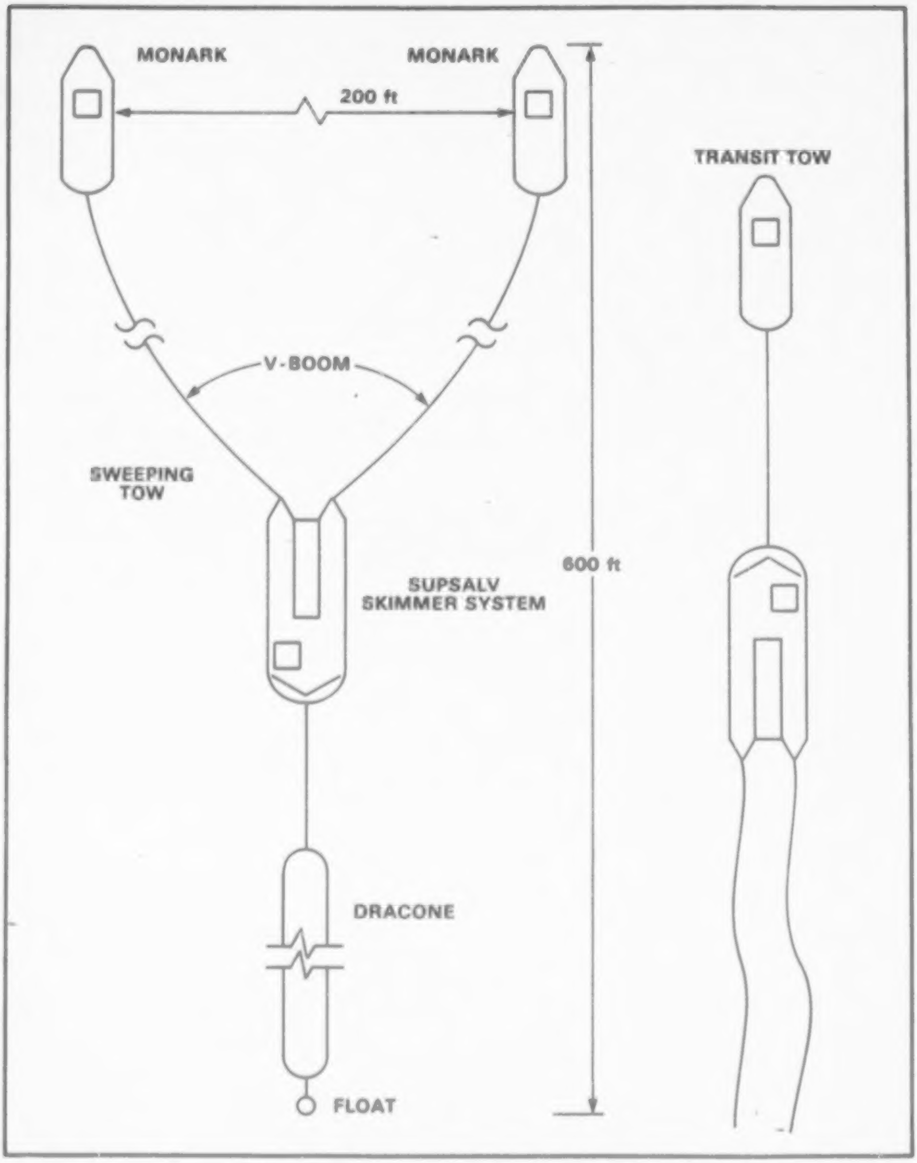
EXTERNAL ARRANGEMENT



INTERNAL ARRANGEMENT

SUPSALV Class V Oil Skimmer

EXHIBIT 2 (Cont'd)



SUPSALV Skimmer System Configuration

EXHIBIT 3
THIRTY-TWO DESIGNATED NAVY COMMANDS HAVING REGIONAL JURISDICTION

NAVY ON-SCENE COORDINATOR (NOSC) AND REGIONAL CONTINGENCY PLAN SUMMARY

Environmental Coordinator	Number of NOSCs and Contingency Plans
CINCLANTFLT	10
CINCPACFLT	9
CINCUSNAVEUR	2
CNET	4
NAVDISTWASH	1
COMNAVRESFOR	1
Shoreside NOSC Totals	27
Fleet NOSC Totals	5

CINCLANTFLT SHORESIDE NOSCS/CONTINGENCY PLANS

Commander, Patrol Wings Atlantic
Commander, Submarine Group TWO
Commander, Naval Base, Philadelphia, PA
Commander, Naval Base, Norfolk, VA
Commander, Naval Base, Charleston, SC
Commander, Helicopter Wings Atlantic
Commander, Naval Air Force U.S. Atlantic Fleet
Commander, Naval Forces, Caribbean
Commander, U.S. Naval Forces, Southern Command
CO, Naval Facility, Argentia, Newfoundland

Total 10

CINCPACFLT SHORESIDE NOSCS/CONTINGENCY PLANS

Commander, Naval Base, Seattle, WA
Commander, Naval Base, San Francisco, CA
Commander, Naval Base, San Diego, CA
Commander, Naval Base, Pearl Harbor, HI
Commander, Naval Forces, Japan
Commander, Naval Forces, Korea
Commander, U.S. Naval Forces, Philippines
CO, Naval Support Activity, Diego Garcia
Commander, Naval Forces, Marianas

Total 9

CINCUSNAVEUR SHORESIDE NOSCS/CONTINGENCY PLANS

Commander, Fleet Air, Mediterranean
Commander, U.S. Naval Activities, United Kingdom

Total 2

CNET SHORESIDE NOSCS/CONTINGENCY PLANS

Chief of Naval Education & Training, Pensacola, FL
Chief of Naval Air Training, Corpus Christi, TX
Commander, Naval Training Center, Great Lakes, IL
Chief of Naval Technical Training, Memphis, Millington, TN

Total 4

NAVDISTWASH SHORESIDE NOSC/CONTINGENCY PLAN

Commandant, Naval District Washington, DC

Total 1

COMNAVRESFOR SHORESIDE NOSC/CONTINGENCY PLAN

Commander, Naval Reserve Forces, New Orleans, LA

Total 1

FLEET NOSCS/CONTINGENCY PLANS

Commander, U.S. Seventh Fleet
Commander, U.S. Third Fleet
Commander, U.S. Second Fleet
Commander, U.S. Sixth Fleet
Commander, Middle East Force

Total 5

EXHIBIT 4
SAMPLE CONTINGENCY PLAN CONTENTS

CNETINST.XY
DATE

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QUESTIONS OF SENATOR STEVENS AND THE ANSWERS THERETO

VALDEZ OIL SPILL

QUESTION: Does the Navy conduct ongoing research and development (R&D) to upgrade their spill response capability?

ANSWER: The Naval Sea Systems Command has a very modest R&D program to upgrade its offshore and salvage-related oil spill response program. Our current R&D efforts are focused on four identified operational requirements:

(1) Portable Offship Fire Fighting Systems. The Navy is developing a portable, AFFF capable fire fighting module to extinguish major shipboard fires anywhere in the world when the burning ship's onboard fire fighting system is inoperative or ineffective. This requirement is particularly relevant to burning tankers, aircraft carriers, etc., when onboard fires must be extinguished as a prerequisite to effective oil spill response.

(2) Toxic Vapor Detection and Sampling Systems. The Navy is developing a laser detection and sampling system which will identify toxic and explosive vapors surrounding, on deck or within a polluting vessel to facilitate prompt and safe response.

(3) Open Sea Oil-Water Separator. The Navy is developing a portable oil-water separator which can remove up to 50 percent of the water from oil-water mixtures/emulsions collected during skimming operations. This is especially critical when available oil tankage is limited on scene, by permitting more oil and less water to occupy available tankage.

(4) Vessel of Opportunity Skimmer System (VOSS). The Navy is developing a highly portable VOSS which can be placed aboard readily available Navy or commercial ships to more effectively contain and recover floating oils and pollutants.

QUESTION: Does the Navy use dispersants in responding to a spill?

ANSWER: The Navy does not emphasize the use of chemical dispersants in our oil spill response planning; we rely almost exclusively on mechanical containment and removal. We are, however, evaluating the effectiveness of dispersant technology. Most recently, we funded the Marine Board of The National Research Council to conduct an evaluation of dispersant effectiveness. The resultant report concluded that dispersants should be applied to oil slicks only when mechanical removal is not a viable option, and even then, only when conditions are such that the dispersed oil and dispersant will cause less environmental damage in the water column and on the bottom than the undispersed oil would cause on the water's surface and on the shoreline. In addition, the report noted a variety of difficult chemical, environmental, and operational criteria which must be met in order for the dispersant application to be successful. Nevertheless, the Navy is prepared to mobilize commercially available dispersants and application equipment when so directed by the Federal On-Scene Coordinator, or by the cognizant authority in foreign waters. The Navy recognizes the expertise of the National Oceanic and Atmospheric Administration and other specialists in dispersant planning and application, and would access these resources as required.

QUESTION: You mention in your statement that time is the critical element in responding to a spill, and that "funding matters cannot be permitted to retard prompt action." (Page 6 of detailed testimony.) Can you elaborate on this point?

ANSWER: This time versus funding statement applies to the way we do business in the Navy. Because time is such a critical factor in ship salvage and major oil spill response situations, Navy policy requires only a phone call to get equipment moving to the scene of a Navy oil spill disaster, regardless of the ultimate liable command. Procedures are in place to then sort out funding responsibilities within the Navy, but not as a prerequisite to prompt action.

QUESTION: Ms. O'Leary of the Cordova District Fishermen United, states in her testimony that the Navy skimmers working on the spill have encountered some difficulties. In particular, they only work for 8 hours a day, equipment for offloading the skimmers is not readily available, and they have difficulty with seaweed. Are you aware of these difficulties? If so, what should be done to correct these problems?

ANSWER: Navy oil skimmer crews are not limited to 8-hour working days. In fact, during the early days of the EXXON VALDEZ response, our crews were often working in excess of 16 hours per day. Under our Navy contracts, personnel are paid a flat rate for a 12-hour day ("or any part thereof") with provision for additional overtime hours. Navy and contractor supervisory personnel determine work hour limits based on safety and productivity. For round-the-clock operations; two shifts would be employed. During the EXXON VALDEZ response, nighttime operations were specifically unauthorized by EXXON due to safety and obvious effectiveness considerations. Skimmer offloading and seaweed were definite problems, however. Early on in the operation, commercial tankage (barges and other tank vessels) adjacent to the working oil skimmers were not provided by EXXON in sufficient numbers, and many hours were spent by the skimmers transiting to an offloading site. Oil recovery effectiveness as well as the total amount of oil recovered were thereby greatly reduced. The solution, of course, is to dedicate a tank vessel to each skimmer or cluster of skimmers. Kelp was not a major problem in recovery operations by the Navy Class V and Class XI systems. However, the kelp rendered the oil/water emulsion more difficult to pump and slowed the skimmer offloading. We flew in a more capable prototype DESMI DOP-250 pump which effectively moved the oil/kelp/water emulsion. In addition, large commercially available vacuum systems placed on the tank vessels were effective in rapid offload of Navy skimmers. Large vacuum systems and additional DOP-250-type pumps had been scheduled for NAVSEA procurement prior to the EXXON VALDEZ spill.

QUESTION: Does the Navy use spotter planes or helicopters to guide skimming vessels in Navy cleanup operations? Are they being used in Alaska?

ANSWER: The use of spotter aircraft (helicopters or fixed-wing) is absolutely imperative during most offshore spill response operations. We have used helicopters in previous operations and float planes were provided by EXXON during the EXXON VALDEZ response. We do not believe spotter aircraft deployment was adequate for optimum oil recovery during the EXXON VALDEZ response, but the geographic scope of this operation would have made this difficult.

QUESTION: Did Navy personnel assist in the offloading and salvage operations on the EXXON VALDEZ?

ANSWER: The Navy was not requested to and did not participate in the EXXON VALDEZ offloading and salvage operations.

Senator **Breaux**. Thank you.

Mr. Stevens, welcome.

STATEMENT OF WILLIAM D. STEVENS, PRESIDENT, EXXON CO. U.S.A., ACCOMPANIED BY FRANK J. IAROSSI, PRESIDENT, EXXON SHIPPING CO.

Mr. **Stevens**. Thank you, Mr. Chairman.

I am Bill Stevens, President of Exxon Company U.S.A., and I am here today to address matters relating to the *Exxon Valdez* oil spill.

I have with me today Mr. Frank Iarossi, who is President of Exxon Shipping Company, and was Exxon's top manager on the scene during the first 14 days of our response to the spill. He will assist me in answering your questions.

I have submitted a statement, and ask that it be taken into the record. I do not plan to read it. However, as a supplement to that statement, I would like to summarize for the committee a new development that Paul Yost referred to regarding our Valdez operations.

In the plan that we submitted to the Coast Guard on May 1st, we noted that there was flexibility in the approach to allow enhancement during progress of the work. Consistent with that, Exxon will use additional personnel and equipment on shoreline clean-up effort in Alaska.

The total resources committed to this effort will be used to clean impacted shorelines in both Prince William Sound and in the Gulf of Alaska.

Seventeen landing craft and seven barges will be added to those provided for in the plan and submitted to the Coast Guard for approval on May 1st. This means that we will deploy a total of 50 landing craft and 20 barges in our clean-up effort.

The major portion of this step up in Exxon's clean-up resources is consistent with information provided the Coast Guard early last week in Valdez.

Through the help of the Department of Transportation, additional landing craft have been made available from Washington State's National Guard. These, together with the additional craft and barges already contracted by Exxon, make up the additional vessels being committed to the effort.

The people involved in this effort are now expected to total nearly 5,000 as compared to 3,400 shown in that plan.

What is most significant is that the additional vessels and their attendant equipment will allow the number of people directly employed on the battle front—that is, on the shoreline, to increase by over 1,000, from 1,475 to 2,500.

The plan submitted May 1st included resources adequate to complete shoreline clean up on schedule. However, to cover uncertainties and provide greater assurance that the clean-up effort will be completed on schedule, Exxon has contracted for personnel and equipment in addition to that provided in the plan.

I should note that the Coast Guard and the DOD have provided significant help in mobilizing the additional facilities and equipment for use in the clean-up effort.

Mr. Chairman, Exxon fully expects to complete the clean up by September 15th, this year. In any event, we will return to the area in the spring of 1990, I am sure along with others, to reinspect the area to assure that the job has been properly done.

That completes my statement.

[The statement and questions and answers follow:]

Statement of W. D. Stevens
President, Exxon Company, U.S.A.
before the
National Ocean Policy Study
of the Senate Committee on Commerce, Science and Transportation
of the United States Senate

May 10, 1989

I am Bill Stevens, President of Exxon Company, U.S.A. I am here today to describe our efforts to deal with the Exxon Valdez oil spill and its consequences and to answer your questions about the spill.

The Accident

I will begin by noting that we do not know what caused the accident. We do have certain facts: the accident occurred early on Friday morning, March 24; the weather was clear; the ship had no known mechanical problems; a course change was requested and authorized; the captain subsequently left the bridge; and tests made some time after the grounding showed the captain's alcohol level was above limits established by the Coast Guard. Obviously, there are many unanswered questions. The National Transportation Safety Board hearing on May 16 will provide more information on the cause of the accident and we look forward to having the results of its detailed investigation.

Exxon's Response

Exxon's response was prompt and consistent with the previously approved Contingency Plan.

Within three hours of the spill, Exxon Shipping Company set up a Casualty Response Center in Houston. In the first few hours, arrangements were made for the first flights needed to airlift equipment to Alaska. Exxon's key response team managers were in the air the morning the spill occurred and were on site 18 hours after the vessel grounding. Dozens more trained people and tons of supplies began arriving that afternoon and have continued arriving daily. Steps to charter aircraft, hire consultants, and purchase supplies were initially expedited from Houston and, later, in Valdez.

On arrival, one of the response team's immediate priorities was to prevent the one million barrels of crude oil remaining on the Exxon Valdez from leaking into Prince William Sound (the current estimate of oil spilled is 260 thousand barrels). On Saturday, March 25, the first day after the spill, Exxon began the difficult and risky process of transferring oil into the first of three Exxon tankers. The transfers were successfully completed on April 4. Salvage operations began immediately with the refloating of the vessel on April 5.

From the outset, the Exxon team moved rapidly to assemble materials and personnel to recover the spilled oil on the water and to protect the most sensitive threatened areas of Prince William Sound. That effort quickly grew, and constitutes what is probably the largest buildup of equipment and personnel ever assembled to combat an oil spill.

We supplied equipment and worked with local fishermen's groups to place boom at five key fish hatcheries on the west side of Prince William Sound. All of these hatcheries were successfully protected from the spill.

On April 2, nine days after the spill, a shoreline cleanup priority committee was formed and on April 8 preliminary approval was obtained from the Coast Guard and eight other agencies for a shoreline cleanup strategy. An initial plan was presented by Exxon on April 14 and approved by the Coast Guard on the 17th. A revised plan was submitted on May 1 incorporating new data on impacted shorelines from ADEC and input from the Interagency Shoreline Advisory Committee and recognizing that Exxon's operational buildup has and will proceed at a faster pace. This plan, like the initial plan, must be approved by the Coast Guard, acting as Federal On-Scene Coordinator on behalf of all involved state and federal agencies. Specific milestones have been set for shoreline cleanup which has commenced and is expected to be completed by mid-September.

This revised plan provides for the cleanup of 364 miles of shoreline. The work will follow four priorities established in consultation with state and federal authorities and environmental experts. Initial efforts will be focused on three miles of seal birthing shoreline areas on five islands. The plan provides next for the cleanup of 85 miles of heavily impacted shoreline and then 85 miles of shoreline which has been moderately affected. As a fourth priority, the plan provides for the cleanup of 191 miles of lightly oiled shoreline.

The 364 miles of shoreline provided for in the plan is based on an April 21 ADEC survey plus an allowance by Exxon for non-surveyed areas, principally in the Gulf of Alaska. The plan specifically addresses the work needed to complete surveying and mapping of all impacted shorelines.

A waste management scoping plan has been submitted to the Coast Guard along with the revised shoreline cleanup plan. A detailed plan will be developed in June when the amount of waste material can more accurately be determined. The scoping plan defines waste disposal methods and equipment and establishes a sound operational program to handle and dispose of all spill-related wastes in a safe, environmentally sound manner and in accordance with all applicable laws and regulations.

Exxon's Response vs. Contingency Plan

Our response was consistent with the actions envisioned in the Oil Spill Contingency Plan developed by Alyeska and reviewed and approved by federal and state authorities. While it was thought to be unlikely, the approved Contingency Plan did consider the possibility of a 200,000 barrel spill in Prince William Sound--about the same size and in the same vicinity as the Exxon Valdez oil spill. The approved plan recognized that a spill of that magnitude could not be fully contained, large volumes of oil would reach the shore and a significant cleanup effort would be required.

The approved Contingency Plan emphasized the importance of the early use of dispersants and open burning. In the words of the Plan:

> "In reviewing the aspects of this size spill it becomes very apparent how important it is to have dispersants approved so that they can be used very effectively to prevent the continuing input of oil into the small bays and shorelines in Prince William Sound. Burning also has to be looked at as a very good alternative to the cleanup in Prince William Sound on the various inlets and bays in which oil may accumulate."

Exxon did not receive authorization to use dispersants, other than for two tests, until the end of the three-day period, Sunday evening, March 26. Exxon also did not receive permission to use open burning until mid-afternoon of the same day. We are confident that had we obtained prompt permission to use dispersants and open burning the environmental damage from the spill would have been significantly mitigated.

Economic Impact

In addition to our efforts to contain and clean up the spill, we have mobilized to mitigate the economic impact on the communities affected by the spill. We currently have 50 people handling claims and we have opened claims offices in Valdez, Cordova, Homer, Kodiak and Seward. We have worked with hatcheries, canneries, fishermen's groups, city and borough governments, and many individuals to assure their financial viability while claims are being processed.

Many local fishermen and others have been employed in our containment and cleanup efforts. More than 5000 people are currently involved in our overall operations.

Environmental Effects

While we tackled the tasks of removing oil from the Exxon Valdez and from the water, we also moved to assess and deal with the environmental effects of this spill. As part of the initial response, Exxon assembled a group of environmental experts to provide advice to our response team on the best ways to go about cleanup to mitigate damage to the environment. This team, working with federal and state personnel, moved quickly to identify sensitive areas for protection and assess biological and ecological impacts of the spill on water quality, sediment and marine life. Samples were being taken even before the oil began to spread from the original spill site.

Within the first two or three days, we had treatment centers set up for oiled birds and otters in Valdez, manned by experts Exxon brought in from California wildlife institutions. Later, bird and otter rehabilitation centers were established in Seward and additional bird centers were set up in Kodiak and Homer.

Exxon has also agreed to provide $15 million for a study to evaluate the impacts of the Exxon Valdez spill on the natural resources of Prince William Sound. Participating in this study will be NOAA, the Department of the Interior, the Department of Agriculture and the State of Alaska. The early data gathered by the Exxon environmental assessment team will be made available for the study.

Conclusion

It is just over a month since the accident and we are in the midst of an extensive oil recovery and cleanup operation. It will take time to render judgments about the improvements which should be considered in light of what we will learn about the accident and the response to the oil spill by all those involved.

I believe that by our actions, we in Exxon have shown our intention to deal responsibly with the spill and its effects. We cannot undo what happened; however, we can and are taking every reasonable action to limit the damage, clean up and otherwise mitigate the impact.

2142F

QUESTIONS SUBMITTED BY
SENATOR JOHN DANFORTH (R-MO)
TO MR. WILLIAM D. STEVENS
EXXON COMPANY, U.S.A.

HEARING ON EXXON VALDEZ OIL SPILL
MAY 10, 1989

1. Obviously, your equipment, materials, and personnel on the scene of the spill were not adequate to deal with it before it spread and congealed. Did Exxon's decision makers consider burning the entire 50 million gallons, while most of it was in the tanker and before 10 million gallons had spilled and spread?

   Who was supposed to consider that option and decide? What are the criteria for that decision?

   ANSWER:

   With respect to the adequacy of equipment and manpower available during the early hours of the spill, Alyeska was responsible for all initial on-scene response activities.

   With respect to the EXXON VALDEZ, the oil spill occurred in a few hours, therefore burning "before 10 million gallons had spilled and spread" was not possible. Burning the ship and its remaining cargo while it was grounded in a precarious position would have likely resulted in a much larger spill as the ship capsized and sank. Lightering the remaining cargo was considered to be the most effective means of preventing further spillage, and this was done successfully. Exxon Shipping Company management made this decision with the concurrence of the Coast Guard.

2. How much oil is still in the tanks of the ship? How much oil do you plan to allow to remain in it when you move it to a site for repairs?

   ANSWER:

   As of early June, the vessel's cargo and ballast tanks have been certified by the Coast Guard to be oil free. Only the minimum amount of diesel and bunker fuel required for safe operation of shipboard equipment is aboard.

3. Would you support random and periodic recurring alcohol testing of your licensed personnel who direct and control tankers?

   ANSWER:

   Yes. (See answer to Question 4.)

4. What are you doing differently since the spill?

ANSWER:

We have made changes in our drug and alcohol policy. Specifically, employees who have had a substance abuse problem will not be allowed to work in certain designated positions including key licensed positions on board ships. Unannounced random testing will be conducted of employees who are assigned to one of these positions which will also include those covered under recent DOT regulations.

All Exxon Company U.S.A.'s oil spill response plans are being reviewed. Since we also depend upon oil spill cooper- atives in many areas for equipment assistance in handling spills, we are working to improve their readiness to deal with spills which might occur in their geographic areas. For example, in the Gulf Coast area, the main cooperative is increasing its training exercises and assessing equipment deployment. In Galveston Bay, we're working with other companies to revive a cooperative that dissolved a few years ago. On the West Coast, we're supporting meetings between regulatory agencies and the cooperatives to deal with larger, harbor-type spills. As a Trans-Alaska Pipeline owner company, Exxon is supporting Alyeska's efforts to increase its oil spill response capability.

Exxon has participated in and endorses the recommendations made by the API Oil Spill Task Force, whose report has recently been released. In particular, we support the establishment of the Petroleum Industry Response Organization (PIRO) that will establish five regional oil spill response centers with the specialized capability for handling very large spills.

7457c
7/10/89

QUESTIONS SUBMITTED BY
SENATOR TED STEVENS (R-AK)
TO MR. WILLIAM D. STEVENS
EXXON COMPANY, U.S.A.

HEARING ON EXXON VALDEZ OIL SPILL
MAY 10, 1989

1. Exxon is a participant in the operation of the North Sea oil terminal facility at Sullom Voe in the Shetland Islands. This facility is very similar to the facility at Valdez in terms of geography, weather conditions, and throughput of oil. Yet the facility at Sullom Voe has considerably stricter operating standards and procedures, such as:

   A. A vessel traffic control system that provides extensive radar coverage and pilot control, helicopter transport of pilots in rough weather, aerial surveillance of tankers, and mandatory off-limit areas for tankers;

   B. Shut down of terminal operations for minor violations of regulations, firm visibility and wind limits for berthing and loading, use of four tugs to dock, and a safety checklist for departing and arriving tankers which are verified by qualified inspection officers; and

   C. Frequent regularly scheduled drills for oil spill response teams, permanent mooring points for booms in environmentally sensitive areas, and an annual exercise involving all oil response teams and equipment.

   How come these same measures aren't in place in Valdez?

   ANSWER:

   All the measures mentioned in the above question are in place at Valdez with the exception of helicopter service for pilot boarding, which addresses a problem peculiar to Sullom Voe, and the extent of permanent mooring points for booms.

   Operating standards and procedures at Sullom Voe terminal are not considered to be stricter than those which have been in place in Valdez. We consider the vessel traffic system, pilotage requirements, port and terminal restrictions, surveillance, training and enforcement at Valdez to be equivalent to that at Sullom Voe. Valdez's tug assistance (three tugs with a combined horsepower greater than that of the four used at Sullom Voe) and vessel equipment and design requirements are at least equal to those at Sullom Voe.

2. Who approved the Exxon contingency plan that was in effect during the spill? Was the plan followed, or were changes made?

ANSWER:

Exxon has developed and maintained extensive plans to respond to oil spills that result from any of its operations. For the EXXON VALDEZ spill, Exxon Shipping Company was the responsible Exxon organization.

Exxon Shipping Company's response plans that applied to the EXXON VALDEZ spill are documented in the West Coast Fleet Office Oil Spill Response Plan, the Headquarters Casualty Response Plan, and the Exxon U.S.A. Interfunctional Oil Spill Response Team Manual. These plans were approved by Exxon Shipping Company management. Exxon Shipping Company's oil spill response capability was summarized in an October 7, 1987, letter to the Alaska Department of Environmental Conservation (ADEC). ADEC did not request further review of these plans. Exxon Shipping Company has a large number of additional manuals for use in responding to spills. These include 19 resource and logistics directories and six that address spill response techniques, plus a number of others for reference. Overall, these volumes encompass some 20,000 pages.

Based on the United States-wide area of Exxon Shipping Company's operations, the plans provide a general structure for responding to an unpredictable variety and location of spills. The plans provide flexibility to adapt to the specific circumstances of any spill.

In the case of the EXXON VALDEZ spill, Exxon's response was consistent with its response plans; all significant provisions were implemented. The Exxon Shipping Company West Coast Fleet Office and Headquarters Oil Spill Assistance Teams were activated within a few hours, as was the Interfunctional Oil Spill Response Team and its equipment. Exxon Shipping mobilized dispersant and spray aircraft, and equipment, including equipment from the OSR stockpile in Southampton, U.K., and from the Clean Bay Inc. (San Francisco, California) co-op. Major Exxon and contract resources, as well as Coast Guard and U.S. Navy vessels and equipment, were subsequently mobilized to deal with the spill.

3. You mentioned in your testimony that Exxon focused on removing the oil from the tanker during the early part of the spill. Wasn't it the Coast Guard Strike Team that removed the oil?

ANSWER:

The successful efforts to remove the remaining cargo are described in the attachment entitled "EXXON VALDEZ Lightering and Salvage Overview" which is an excerpt from the "Chronology of Exxon's Response to the EXXON VALDEZ Incident."

Exxon had a lightering team on board the EXXON VALDEZ less than 24 hours after the grounding. Exxon's team included three experienced lightering Masters, two on the vessel to supervise round-the-clock operations, and a third in the VALDEZ Command Center to provide management and coordination. The first of the three Exxon vessels used for lightering was on the scene in less than 12 hours. In total, more than 100 Exxon employees took part in the lightering. All key lightering decisions were made by Exxon management, and all activities were directed by Exxon.

The operation was aided by approximately six members of the Coast Guard Strike Team, who started arriving on the morning of the second day, as well as several contract personnel hired by Exxon. All key lightering decisions were reviewed by the senior Coast Guard representatives aboard the vessel.

4. How were your people trained in spill response? Had they ever worked together before?

ANSWER:

Exxon Shipping Company's response team is supplemented by Exxon's interfunctional oil spill response teams (IOSRT) which provide a pool of trained oil spill clean-up supervisors and specialists from other Exxon functions and affiliates. The teams also have access to outside experts and oil spill clean-up equipment from the United States, Canada, and the United Kingdom, as well as other sources. The IOSRT is designed to supplement the responsible Exxon organization's spill response teams, where the magnitude of the spill is judged to be beyond the capabilities of the organization's teams.

Exxon has conducted a series of exercises of the IOSRT since its formation in 1980. IOSRT team members attend the Texas A&M Oil Spill Training School and periodic refresher training and simulation sessions. The IOSRT has, since its formation, conducted 26 training meetings, of which ten involved spill response simulations. An additional call-out exercise was conducted to determine the ability of the team members to respond to a site within the target 24 hours from the time each member received the mobilization call. The latest IOSRT exercise was conducted in October of last year. The two simulations utilized for these exercises were a 30,000 barrel spill near the approach to Galveston and a 4,000 barrel spill in San Francisco Bay.

The Exxon Shipping Company team successfully responded to the accidental grounding and associated oil spill of the EXXON HOUSTON in Hawaii on March 2, 1989.

5. Admiral Yost mentioned in his testimony that he is concerned that Exxon has vastly underestimated the time needed to clean up the beaches, since the beaches are reoiled with each tide. Could you respond to this?

ANSWER:

Exxon began its clean-up effort on the most heavily oiled beaches. Some of these heavily oiled beaches did experience reoiling, and we have had to treat them further. As the cleanup progresses, reoiling should become less of a problem, and we will move on to less heavily oiled beaches. Unless directed otherwise by the Coast Guard and the Shoreline Cleanup Committee, it is our objective to treat all the impacted shoreline by mid September.

6. Norway currently bans the use of dispersants because of their potential impact on fisheries and the head of Environment Canada (Canada's EPA) has stated that their tests show dispersants are only effective at removing 10 percent or less of Alaska crude. The tests supervised by the Coast Guard and the Alaska Department of Environmental Conservation of dispersants on this spill produced ineffective results. In light of this, why does Exxon continue to insist that use of dispersants is the preferred method for combatting this or any other spill?

ANSWER:

Norway does not ban the use of dispersants. Norway's response philosophy puts primary emphasis on mechanical containment and recovery, but recognizes dispersants may be used. Other countries take a different approach. In the U.K, for example, prompt dispersant spraying is the primary means used to combat large spills. The U.K. Government has established a Marine Pollution Control Unit (MPCU) to coordinate response activities to a coastal spill in U.K. waters. The MPCU maintains five dispersant spraying aircraft and dispersant supplies at various airfields around the U.K. to enable it to apply dispersant to a spill soon after it occurs.

Laboratory and field tests have shown that Prudhoe Bay crude is among the most susceptible to the use of dispersants and that dispersants are effective in the sea state conditions which prevailed in the days immediately after the EXXON VALDEZ spill. Dispersant use pre-approval by Alaskan and Federal agency officials for a specific area of Prince William Sound also demonstrates agreement on their effectiveness with Prudhoe Bay crude.

The tests required by the Coast Guard On Scene Coordinator (OSC) were unnecessary and hampered the oil spill response effort. Tests on Saturday and Sunday were judged successful by Exxon representatives. Unfortunately, the Coast Guard OSC did not authorize Exxon Shipping Company to use dispersants other than for tests until 1845 hours on the third day after the spill (Sunday evening, March 26).

Because of the record of their successful use around the world, Exxon believes that dispersants are the best means available for combatting large oil spills in open water. This was recognized in the Alyeska Contingency Plan approved by federal and state agencies which emphasized that the early use of dispersants and open burning were the most effective immediate steps that could be taken to mitigate the environmental effects of a large spill in Prince William Sound.

7. Do you have any plans to address the serious labor shortage problems being caused in local Alaskan businesses due to the high price being paid by the company for laborers?

ANSWER:

Yes. Exxon has established a Community Employment Assistance Program in response to concerns raised regarding the impact of the oil spill cleanup on local employment and community housing. The objectives of this program are to assist in hiring replacement workers and to assist communities in providing shelter.

QUESTIONS SUBMITTED BY
SENATOR LARRY PRESSLER (R-SD)
TO MR. WILLIAM D. STEVENS
EXXON COMPANY, U.S.A.

HEARING ON EXXON VALDEZ OIL SPILL
MAY 10, 1989

1. According to Alaska State government officials, May 11 is the deadline for cleaning up the area where seals have their pups. What is the status of this particular clean-up effort? Will Exxon be able to meet this deadline? If not, why?

ANSWER:

With Coast Guard agreement, Exxon moved off the seal pupping areas (Applegate Rocks, Seal Island, Smith Island, Little Smith Island, Green haulout area) on May 15, 1989. Earlier, Admiral Robbins (Federal On Scene Coordinator), had extended the deadline from May 10 to May 15 with consultation from seal experts.

2. Has Exxon established a clean-up plan for those contaminated areas that lie outside Prince William Sound? If not, when does it plan to do so?

ANSWER:

Estimated clean-up efforts for the Gulf of Alaska areas were included in Exxon's April 15, 1989, and May 1, 1989, plans. With improved definition of the shoreline impacts outside Prince William Sound, Exxon submitted updated clean-up plans for these areas as a supplement to the May 1 plan in its May 24, 1989, plan submission. This plan described specific clean-up plans for the Gulf of Alaska, the Kenai Peninsula, Kodiak, and the Shelikof Straits (Seward, Homer, Kodiak).

3. What reasons can you give to justify the relationship between the sharp rise in gasoline prices across the United States and the VALDEZ spill? Specifically, how would you explain the increase in gasoline prices in my home state of South Dakota when South Dakota gets its gasoline chiefly from Gulf Coast sources, not Alaskan sources?

ANSWER:

There is little to no relationship between the rise in gasoline prices in the United States and in South Dakota and the Valdez spill. Petroleum prices in the United States and in South Dakota are impacted by a number of factors, including events well beyond the borders of this country. The Valdez spill was one such event that temporarily affected the supply of crude to the West Coast of the United States, but its effect on overall U.S. petroleum prices was minimal in relation to other factors.

While the U.S. gasoline market is complex, the primary driving force behind the recent increases in gasoline-prices is higher crude oil costs. The Department of Energy, the Congressional Research Service and widely reported analyses by private sector experts all reached this same conclusion. From November of last year until the end of March, crude oil had already risen 15¢ per gallon ($6 per barrel) to about $20 per barrel for widely traded West Texas Intermediate. This increase was largely in response to OPEC actions announced late last year. Crude oil production by OPEC countries is reported to have declined 3 million barrels per day in the first quarter of this year from the fourth quarter of 1988. Since the end of March, crude oil generally has fluctuated close to the $20 per barrel level. Because retail gasoline price changes generally lag crude oil cost changes, these crude oil cost increases were just beginning to impact retail prices in March.

In addition, gasoline prices are seasonal and normally increase relative to crude in the spring as suppliers incur higher costs in preparing for the summer driving season. Seasonal changes relative to crude ranged from 1¢ to 6¢ per gallon over the past four years. Also, controls on the vapor pressure of gasoline by the EPA are increasing the cost of gasoline by up to 3¢ per gallon. Further, the cost of European gasoline needed to meet U.S. demand increased in April/May on average, about 8¢ per gallon above East Coast prices. Increased state gasoline taxes are also contributing to higher prices in selected areas of the country.

All of these factors have contributed to the increase in retail gasoline prices across the U.S. While specific data for South Dakota is not available from the Lundberg Survey for the November through early June time period, their survey does indicate retail gasoline prices in the U.S. have increased 17¢ per gallon from last November through June 9, 1989, only slightly more than the 15¢ per gallon increase in the cost of crude oil alone over the same time period.

Senator BREAUX. Thank you very much, all members of the panel, for your testimony.

Let me ask you, Mr. Stevens, Mr. Kelso comes out pretty strong in his statement with regard to his contention that Exxon has been involved in a disinformation campaign in trying to blame the state. Now, I really think that the focus of this hearing is to look at the extent of the clean up, and are we cleaning it up, what is likely to occur in the future.

But let me ask you the question in order for you to answer Mr. Kelso's allegations, which I find to be very serious. Has Exxon sat down and had planning meetings on how to handle the spill, not from a clean-up standpoint, but from a public relations standpoint?

Mr. STEVENS. No, sir, not at all. And I totally reject the charge of a disinformation campaign.

If I might, Mr. Chairman, in the part of the country that I come from, it is a fairly serious charge to accuse someone of not telling the truth when under oath. And as you are probably are aware, I and my associates appeared before a House Interior Subcommittee hearing for three arduous hours Monday afternoon of this week in Valdez. We delved into quite a bit of detail regarding the matters that Mr. Kelso referred to, under oath.

I think I will just let that speak for itself, if I might.

Senator **Breaux**. Were there existing state rules or regulations that were in effect that you felt prevented Exxon or Alyeska from responding as quickly as you would have liked to respond?

Mr. **Stevens**. Mr. Chairman, the Alyeska contingency plan, as noted earlier this morning, dealt with a 200,000 barrel spill in Prince William Sound, a scenario very near the same location as actually occurred.

Senator **Breaux**. I do not want to disagree with you on that point too strongly right now, but I think the message I got from Admiral Yost was that the plan was based on a 1,500 to a 2,000 barrel spill, and then they had two pages mentioning the possibility of a 200,000 barrel spill. And then when the state asked Alyeska to prepare for a 200,000 barrel spill, Secretary Kelso points out that Alyeska said it was not likely.

I mean, that is what I got from the contingency plan as Admiral Yost described it. I do not think it is appropriate, unless you know something about that contingency plan that Admiral Yost does not know about, to call it a plan based on the possibility of a 200,000 barrel spill, when he says it is based on 1,500 barrel spill.

Mr. **Stevens**. The plan dealt principally with a spill of a much smaller size. Since it was Alyeska's plan, I am not that familiar with what the base size spill was.

Senator **Breaux**. Is Exxon part of Alyeska?

Mr. **Stevens**. We are a shareholder in Alyeska, which is a separately incorporated company. And I agree, Exxon as a shareholder, on an owner's committee, did review that plan and did approve it. I should note, along with the state approving that plan.

The 200,000 barrel scenario was dealt with in the plan, and it recognized that it would be impossible to stop oil from hitting the beach in a scenario of that size, and that the only way that the damage could be significantly mitigated, not obviated, but mitigated, was through early and quick and effective use of dispersants and open burning.

That is why we have made the statements we have about not receiving approval for use of dispersants until 6:45 on Sunday afternoon, day 3 of the spill. We asked for that approval before our people left the West Coast, about 8:00 on Friday morning, and it was not until 6:45 Sunday evening we got such approval. And no one, no one, Mr. Chairman, has come forward to refute that statement.

Senator **Breaux**. Well, Mr. Stevens, Mr. Kelso refuted in the second page of his testimony, and I am quoting him because I want him to comment on it, "The facts are quite different from Exxon's fabrication. First, my department approved the use of dispersants in the area called Zone 1 on March the 7th and the 8th, weeks before the oil spill."

Mr. Kelso, can you comment on that?

Mr. **Kelso**. Thank you, Mr. Chairman.

Yes. The state had been working with the Coast Guard regional response team in preparing areas that could be preapproved for dispersant use in order to save time in the event there was a spill so that there would be no further need to consult with the state and the Coast Guard could go ahead and authorize dispersant use as was appropriate.

The chart that you see here has a cross-hatched area. That is the portion within Prince William Sound that was preapproved by the State of Alaska for dispersant use. There was no need for further consultation. The on-scene coordinator was fully authorized to allow that to occur.

Let me supply a couple of additional details. One, is that, to the best of my information, testimony at the hearing in Valdez indicated that the Coast Guard approved each request for trial application of dispersants. The initial request was made by Alyeska. And a test dump from a helicopter using a spray arrangement was unsuccessful.

Mr. Iarossi, who is accompanying Mr. Stevens today, acknowledged that in his press conference. Tests on Saturday the 25th, the day after the spill, were also either unsuccessful or marginal. It was not until Sunday that there was a test that was viewed as successful. And as soon as there was a successful application, the Coast Guard authorized it.

But even after that authorization, bear in mind, the equipment was not on-scene until—it began to arrive on Saturday—but even after that authorization, Exxon did not do a dispersant dump on Sunday. It was late in the day, and they indicated that it was too late to do one. But they also were not ready to go on Monday. Part of that time—there was a wind hold on air traffic, but a good share of that time when, by mid-morning that wind hold had been resolved, Exxon still was not ready to take off. The planes were not loaded.

And also during testimony this weekend, it is my understanding that it was acknowledged that the maximum capacity would have been four drops on Saturday, four drops on Sunday, even if the test results had been favorable.

That is not even close to the amount of dispersant that has been indicated by Exxon's top executives that they would have applied. The figures just do not compute. They did not have the equipment, they did not have the dispersant, and they certainly did not deliver it.

Senator Breaux. Mr. Stevens and Mr. Kelso, you obviously have opposite positions on whether this was a preapproved operation or not. This thing is probably going to be in litigation for a long, long period of time. And some of those answers will have to come probably at a later date. I mean, Mr. Stevens, your position is totally contrary to Mr. Kelso's as to what you were able to do.

Part of that goes to the question of what were we prepared to have happen up there and what was our prepared response in the event that something happened?

And one of the things that disturbs me, I just need some more comment on it, is that I think Admiral Yost is pretty clear, at least my feeling from him, with regard to the contingency plan that was in place there, that it was a contingency plan on a much smaller possible oil spill. He said they were plans on how to address a 1,500 to 2,000 barrel oil spill.

Now, how can we have that in place? What system allows that to be the contingency plan for Valdez when every day we have got supertankers carrying a million barrels of oil and more, coming in and out of that channel? I mean, how could we say, well, we have got the plan, it is in place? But the plan specifically calls for actions and recommendations and equipment to be available to handle something that is 1,500 to 2,000 barrels, when every day we have got ships running around with a million barrels of oil in there? How could that have happened?

Mr. **Stevens**. Mr. Chairman, you might want to address that question to Mr. Kelso, because the Alaska Department of Environmental Conservation approved that plan with that 200,000 barrel scenario in it, as recently as 1987.

Senator **Breaux**. Mr. Kelso, let me ask you about it. Somebody drew it up, which was industry; someone had to approve it, which was government, I imagine, perhaps Federal Government and state government. There are all kinds of problems along with this.

I also note that you point out, at least your testimony says that in March you said that the 74,000 spill possibility was too low. In 1986 you insist that they prepare for a 200,000 barrel spill. And the response from Alyeska is that it is highly unlikely a spill of this magnitude would ever occur.

On behalf of the state, what can you say about why this plan was in effect and why did we not have one that, in fact, prepared for a spill of at least this magnitude, when we have ships that carry five times more than what was spilled going in and out of there?

Mr. **Kelso**. Mr. Chairman, this is the oil spill contingency plan. It is prepared by Alyeska and under authority of state law.

And by the way, I might point out that when the state began requiring oil spill contingency plans, companies, including Exxon, went to court to block that, claiming that it was unconstitutional to have to prepare a plan like this. They had successfully blocked such plans in the State of Washington, and they were trying to accomplish the same thing in Alaska.

So I think we have a long history here of not enthusiastic participation on the part of industry, including Alyeska.

This plan does, in fact, include preparation for a 200,000 barrel spill. There is also a scenario for a 4,000 barrel spill. And perhaps that is what Admiral Yost is referring to. I would certainly not expect the Admiral to be familiar with the details of this. That is not his job.

But let me give you just a couple of very short excerpts from the scenario for the 200,000 barrel spill. And you are correct, we insisted on that because the Alyeska operation includes not only the possibility for spills at the terminal itself, but also spills that could occur out in the sound. And so what we wanted was a Prince William Sound scenario, tanker scenario, and large volume. And that is what this represented.

Here are the assumptions that were involved. This is Alyeska's proposal now and Alyeska's assumptions. The sea state and weather conditions will be as follows. Winds less than 15 knots, sea state less than 5 feet, currents less than 1.6 knots, waves less than 2 feet, visibility equal to or greater than 2 miles.

Now, I think you each have a copy of this chart, the chart I have here. And as you can see, for essentially the first 60 hours, the winds were within the parameters described in those assumptions. The slick stayed relatively compact, as you can see from the second chart. It was not until the wind came up late in day 3 that the spill was moved to the south and west.

That began right there.

And again, well beyond the first 60 hours, we had a compact pancake, dense oil, calm sea, virtually no wind, and sunny skies. If the equipment had been mobilized that Alyeska promised, and there is a chart that lays out which equipment would be mobilized by what time, by the time this wind began to come up, they would have, given the figures they gave us, have collected 240,000 barrels.

In addition, Alyeska had supplied a letter which indicated that they had, in fact—again, we had raised questions about this—Alyeska had provided a letter indicating, prior to this cycle of approving this plan, that they had the capacity to handle 100,000 barrels in 48 hours.

If we were to make a checklist of the things promised by Alyeska in the plan and not delivered on, I think it would fill a full page. Item after item was simply omitted. Equipment was not brought on site. Crews were not mobilized. Equipment was not mobilized from other back-up sources.

One example. When this event occurred, we had a staff person on board that vessel by 3:00 a.m., on the deck of the *Exxon Valdez*. At the same time, one of our oil spill-related people, we do not have a very large oil spill staff, but we have some people who are very good, and we started one of those folks coming from Wasilla, which is north of Anchorage and a six-hour drive away, and he drove himself in a vehicle, came from Wasilla, drove all the way to Valdez, arranged transportation, got out to the vessel, got out on the deck of the vessel before the Alyeska equipment had even begun to arrive.

That is not an immediate response and that is what Alyeska had promised in the response plan.

Senator **Breaux**. Thank you. At this time, I would like to make part of the committee record information on oil spill clean up provided by Novar International Chemex, Inc.[1]

I recognize Senator Gorton.

Senator **Gorton**. Thank you, Mr. Chairman.

Mr. Kelso, I want to tell you that I regard what I have read publicly of what you have said and your testimony here today as clear, cogent and convincing. It is without obfuscation of any of the details. In my view, you are telling it like it is.

You have found yourself thrust into an extremely difficult job and I think that you have conducted it very well. And I hope that you are permitted to hold that position until you have cured this situation.

By contrast, I feel that the Exxon Corporation acted in a totally irresponsible fashion in causing this spill to take place in the first place; and that nothing that it has done since then has been any more responsible than its supervision of its maritime operations.

I find it incredible that now, these many days and weeks after the accident has taken place, that Mr. Stevens, not five minutes ago, in essence, said that it is all your fault because the State of

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[1] The material received was not reproducible.

Alaska approved a plan that allowed for the recovery of only 200,000 gallons; that the total corporate responsibility in this case is, first, to try to see to it that the state or the Federal Government makes the minimum and imposes the minimum requirements against it.

And then, after having succeeded in doing that, by litigation or otherwise, that it has no responsibilities beyond the black letter of the plan, which, according to your testimony, which I believe, it did not keep even to that extent.

And I thought long and seriously since this original response about how we could change this particular corporate attitude. As I suspect you know, I suggested that Mr. Stevens' superior, and I would extend that to Mr. Stevens and Mr. Iarossi, should be drawing unemployment compensation right now as a result. They have obviously rejected that thought.

But I have three points which we might incorporate into the law in the future, which I have come up with, on which I would like to have your comments. And I will be happy to have the comments of the people from Exxon on it as well.

First, I hope my factual premise is correct, that in addition to everything else inadequate in the response to this disaster, that the Exxon Corporation is attempting to greatly minimize its liability, and to say, for example, that it has no liability to the state or the Fish and Wildlife Service for all of the wildlife who have been killed as a result of this accident, or for any of the damages which cannot precisely be measured in dollars, with respect to the beaches and the shorelines of the State of Alaska.

And so my first suggestion, and I need your statement as to whether or not my interpretation that they are trying to downgrade their monetary responsibility, my first suggestion is that we change the law so that monetary liability is very liberally and very expansively defined. So that we cannot have a future instance in which they say, oh, no, a sea otter has no value, or is the value of $1, therefore, we have no monetary responsibility for killing it. That is number one.

Number two, it is my view that because any real sense of corporate responsibility for this accident has been so lacking that only something which really will affect the bottom line of that corporation's profit and loss statement will be an effective preventive of future incidents of this sort.

And I would suggest that when it has been determined what the total monetary damages are and those damages have been paid, that perhaps in an analogy to punitive damages, that the corporation ought to be responsible for, say, a doubling of that amount. If the total cost of this clean up is $1 billion, perhaps there should be an automatic fine of $1 billion of $2 billion added to that, payable either to the State of Alaska, in this case, or to some federal entity.

And I would like your responses to that.

And finally, and this really does affect Alaska. It seems to me that the greatest single sanction we could impose in a case like this would be to deny this corporation the right to take any oil in Alaska, to transport it out of Alaska, or to use it anywhere in the world for a period of one, two or three years, when they have caused, by their negligence, a disaster of this magnitude.

And that maybe losing their business to Arco or to Texaco, or to someone like that, over a period of time might create a different corporate attitude and prevent something like this happening in the future.

Perhaps, right now, if you have any off-the-cuff reactions to any or all of those suggestions, or if you would like to talk to us later about them, I would appreciate hearing your comments.

Mr. KELSO. Thank you, Senator.

For some of these items, I will come back to you later, more specifically, after I have had a chance to consult with the Governor and other members of the cabinet. But I do not think I need to wait for all of them.

We are very concerned that liability be liberally construed, not only in this instance, but as a deterrent measure for future. And what that precise formulation should be, how it should be characterized and whether it should appear both in federal and state law, I think would be a matter for further discussion.

I can tell you that one of the great concerns among people who live in the dozen or so communities directly affected by the spill is that Exxon's interpretation of reasonable claims may change over time. And I hear this everywhere I go in the area of the spill, because people are concerned that direct claims, such as damage to fishing gear or loss of a fishing season may be compensated by Exxon, but secondary and tertiary impacts may not.

Now, in fairness to Exxon, they have said that they will compensate for secondary losses. For example, the hardware store that normally would be outfitting fishing boats, except for the fact that the fishing season is either restricted or closed, and other costs like that.

But the great fear is that it will be too difficult for those people to quantify those damages. How does one quantify a reduction in bookings from the tourist business? How do you compare that to previous years? Or just how does it break down? And where does the line stop between secondary and tertiary damages?

So a liberal interpretation of economic laws, and the point you were really raising, a liberal interpretation if what it means to have had this damage to these resources.

Don Collinsworth, Commissioner of the Alaska Department of Fish and Game, will be testifying here on the next panel, and he will be heading up the state's effort to assess resource damage.

But your point remains, that much of that damage is very difficult to quantify, both in terms of the actual numbers of animals and in terms of what that means as far as compensation.

So far, Exxon has acknowledged financial responsibility, but has stopped short of acknowledging liability. And I think that broad interpretation that you suggest is very much appropriate in this and in other instances. If it is not in our home that this is happening, it could easily be someone else's home.

Senator GORTON. If you had this possibility of losing the right to do business in Alaska, would your corporation act more responsibly than it has both before and after this accident or would it just have no effect on it?

Mr. STEVENS. Senator, if I might, I will respond to all your comments.

First, you began by saying that Exxon had taken actions to cause the spill to take place. I would observe that it was an accident, albeit a disastrous one, one that at this point would appear to involve human failure.

We certainly were not sitting here in any way inferring that the spill was Mr. Kelso's fault, which was another comment you made. We did not say that, and I do not think we have said anything that would infer that.

It was our ship, it was our oil and our employees on that ship when she went aground. We moved rapidly, extremely rapidly to take responsibility and to take charge for handling all of the impacts, including claims from the spill, and we have done so right since day one.

With respect to your comment on unemployment compensation, I would ask you what positive effect that would have on the people of Prince William Sound or on cleaning up the oil on the beaches? I think none at this point.

Now, with respect to your three points, I am not speaking to nor have we made any comments having to do with liability. As I said earlier, we are not trying to shift blame. We are not finger pointing at anyone.

There are some lessons to be learned, and it was in that light that my comments were made to Senator Breaux's questions earlier.

Again, we accepted responsibility immediately. We are committed to dealing with the impacts. We have moved rapidly to do so. We are committed to cleaning up the spill by September the 15th.

With respect to your comment on impacting the bottom line, I would suggest to you, Senator, that it has been impacting our bottom line for years because we have been paying insurance costs on policies dealing with pollution, pollution cleanup cost.

With respect to your comment on keeping us out of Alaska, I would ask the Senator to think about the precedent of a piece of legislation like that as it would broadly apply to accidents of all sort which occur around this country every day.

With respect to Mr. Kelso's comment about Exxon's interpretation of reasonable claims changing over time, I would ask Mr. Kelso but more importantly, Mr. Chairman, I would ask the people of Prince William Sound to judge Exxon by our actions, not by some forecast or worry, although I will admit those concerns are human and very understandable. But judge us by our actions.

Senator GORTON. My time is done. I would just like to say that as far as I am concerned, both Mr. Kelso and this Senator have judged you by your actions.

Thank you, Mr. Chairman.

Senator KERRY. Mr. Stevens, let me follow up on that if I can. You were sitting here when Admiral Yost testified, and I try to underscore it because I think it is important that it is his assessment as the person in charge that considerable additional resources are necessary in order to meet a September 15th target date. How do you respond to that?

Mr. STEVENS. Late last night over our FAX machine here in the Washington office I did receive a copy of the letter that Admiral

Robbins delivered late yesterday evening to the manager in charge of our Valdez operations.

And the first sentence of that letter begins, "I have reviewed your May 1st shoreline restoration plan. The approach you describe is a sound one, but I remain seriously concerned that the investment of resources you describe will not be able to clean the 300-plus miles of impacted shoreline." And then it has six points which are under a heading.

Introductory sentence, "Accordingly, I find your plan to be a well designed approach, but needing elaboration."

I believe you read those words to Admiral Yost. "The following list of items, once accomplished, will result in a plan I can and will support." And the first one of those had to do with increasing the work force.

The comments as I read this letter are with respect to the May 1st plan. What has been under way since early last week is recasting that plan consistent with the contingency case that we had in our original May 1st plan. You missed my opening statement, Mr. Chairman; if I can, with your leave, I will just go back and read a couple of sentences out of that.

The plan submitted May 1st included resources adequate to complete shoreline cleanup on schedule; that is, September 15th. However, to cover uncertainties and provide greater assurance that the cleanup effort will be completed on schedule, Exxon has contracted for additional personnel and equipment.

And what I announced in my opening comments——

Senator **Kerry**. Let me interrupt you there for one second, and we will come back to it. What you are saying to us—let me understand that completely. You are saying to us that the plan submitted on the 1st which Admiral Yost now says he needs additional personnel and so forth, but you are saying that plan which has cleaned up 1.7 miles of beach in 40 days is going to clean up 400 miles in 128 days?

Mr. **Stevens**. Yes, sir.

Senator **Kerry**. How do you do that?

Mr. **Stevens**. Carefully and with a lot of effort.

Senator **Kerry**. Seriously, how do you do that? I mean, if you are planning intelligently and you are running along here and you have got 1.7 miles in 40 days, you have got 200 people on the beach. You have got the guy in charge saying you need more, and you are telling us that the plan you submitted on the 1st would do the job?

Mr. **Stevens**. Let me respond to the latter comment.

The guy in charge—the Coast Guard is clearly in charge—has responded that we need more. Today in Valdez, Admiral Robbins will be given the more, if you will. He will be given revised estimates in terms of manning and equipment, and the Coast Guard will then respond to us on the adequacy of that, whether it meets this list that they have given us.

Now, let me go back to your 40 days. Shoreline cleanup did not begin on the day of the spill. First, there was no oil on the beach.

Senator **Kerry**. Well, let us eliminate that first bracket of, say, ten days or so, whatever.

Mr. **Stevens**. Actually, it was more than 10 days.

Senator **Kerry**. What was the first day you were on the beach?

Mr. Stevens. In terms of actually working as opposed to testing, it was probably about April the 12th.

Let me give you the events having to do with shoreline cleanup. On April 2nd, and this is in my submittal to the committee—on April 2nd, nine days after the spill, a shoreline cleanup priority committee was formed and on April 8th, preliminary approval was obtained from the Coast Guard and eight other agencies for a shoreline cleanup strategy.

An initial plan was submitted by Exxon on April 14th and approved by the Coast Guard on the 17th. And again, the testing of the shoreline beach cleanup methods was done under the auspices of the shoreline cleanup committee on about April 10th or 12th.

Now, in terms of the massive effort on the shoreline, it began to build up around the middle of April and, of course, is continuing through today and into the future. But let me say this: That we have started the cleanup effort and Admiral Yost commented on his and the Vice President's visit to the worst beach, which is the Smith Island beach area, and we purposely started on the worst impacted beach.

It would be wrong to think of the whole beach area as being anything like Smith Island. And, if I might, I will share with you some information on the impacted beach area. This information comes from surveys that were made by the Alaska Department of Environmental Conservation, Mr. Kelso's organization, I think in mid-April or so, and they are based on the best available data as of then plus some estimates that we have made for areas that were not surveyed.

I think Mr. Kelso is correct that there still is survey work going on through today. That is not expected to be completed, I might add, until the 1st of June. That is being done with our own resources and people along with ADEC and NOAA.

Of the 365 miles of beaches to be cleaned—and this is in the May 1st plan and again it is subject to revision with these new surveys—

Senator Kerry. How many?

Mr. Stevens. 360—well, the exact number is 364.2 miles. 3.2 miles is classified as a class I beach, and what that is is the pinniped or seal pupping areas. That is a number one priority to get done. 84.5 miles is class II, and that is the most heavily impacted beaches. 84.8 is class III, and those are moderately oiled, and I am not trying to place subtleties of shading on definitions. And 191.4 miles of beaches are classified as lightly impacted.

Now, let me say that the cleanup plan recognizes and addresses cleanup of all 364 miles. In other words, that 191 miles of lightly impacted beach is included in the plan to be cleaned up by September the 15th. That is our intention and our commitment.

There are a number of environmental committees working to assure that any beach areas that are cleaned up are not more damaged by the cleanup activity than they are by leaving the oil—and this would only apply, of course, to the lightly impacted beaches, leaving whatever light oil happens to be there. And the plan recognizes that but, again, it is a misrepresentation of the plan to say that we do not plan—that the plan did not cater to the cleanup of the 194 of the 364.

Now, in response to your question, I have given you some background. 84.5 miles is heavily impacted. In order to try to be sure that we get as far ahead of the curve as possible and certainly that is our intention, we started on the worst beach, Smith Island. It is about 7 miles in total length. Again, we have got about 84 miles of heavily impacted beach. We are going to do that first, but we will no doubt because we will have the resources to do this, no doubt be working in a number of beach areas, not just one.

But we are working in a number of beach areas today, I should add.

Senator KERRY. Well, I am not an expert, and I am not capable of second-guessing you sitting here today and saying you absolutely cannot do it. But I certainly want to go on record at this day in May saying to you that I have the deepest concerns and reservations about the capacity to do it based on what we have seen and I willingly subtract a number of days and acknowledge that you were not in a full beach cleanup from the beginning, etcetera.

But if you look at the 28 days or so that the beach cleanup has been going on—and you are even conservative in your estimate. I mean, you have about 20 days per mile, maybe 15 days per mile so far. Then you are telling me you have got 3.2 miles left on a class I beach. That is going to take you 60 days just for that beach at the current rate. Then you have got 84 more miles of class II beach at the current rate.

You know, you are doing in the 120 days or so between now and the September target date—you have six miles that you are going to get done. So, obviously, something has got to change.

Can you incrementally increase the personnel working to the degree that you are going to do 84 miles?

Mr. STEVENS. Well, Mr. Chairman, obviously we feel we can or we would not be standing up here or submitting a plan that publicly commits us to getting this job done.

One of the things we value is our credibility. When we say we are going to do something and have it done, we are committed to doing it. And obviously if we thought that this was a pie in the sky plan, I would not be sitting here before you today talking about the May 1st plan or about the added resources that we are bringing to bear on that to buy an additional safety margin.

Senator KERRY. How do you answer the question raised by Admiral Yost that his feelings ten days in, the beach is in the same condition that it was?

Mr. STEVENS. I cannot speak for Admiral Yost. I will say that Admiral Robbins, who is Yost's man on the scene on a full-time basis is working very closely and very cooperatively, I should add, with my organization up there. They are both committed to getting the job done.

I have not heard what Admiral Yost had to say to you here this morning before.

Senator KERRY. Let me ask you this, then. That concerns me a little bit because Senator Stevens informs me he has heard it before, and——

Mr. STEVENS. All I can say is this Mr. Stevens, not that Senator Stevens, has not heard Admiral Yost say that before.

Senator KERRY. Be that as it may, is it fair to us in mid-July to take a look at this and see where we are?

Mr. STEVENS. I am not sure what the intent of your question——

Senator KERRY. Is it fair for this committee.

Mr. STEVENS. Oh, for me to be sitting here——

Senator KERRY. To come back and revisit and see where we are.

Mr. STEVENS. You mean to come back in mid-July?

Senator KERRY. Right here before the committee. Is it fair for us, from your perspective, to make a benchmark, a look at this in mid-July and see where we are relative to where we were today?

Mr. STEVENS. I will be glad to leave with you the milestone chart that we have submitted to Admiral Robbins in terms of the progress that we are planning to make through the course of the summer. It shows a buildup—pardon me—a progress in terms of miles of beach cleaned through the end of September. And again, as I said a moment ago, we are prepared to be judged by our progress on that.

I do not mean to guarantee to you or say that there is no risk. Some of the reservations you expressed earlier, I share with you. The only difference between you and me is that I have the capability to do something about it in terms of working with my organization, and that is what I am doing every day, and that is why I do not respond to Senator Gorton's request that maybe we consider resignation because I do not think it would be productive.

Senator KERRY. Will you agree to come back here in mid-July?

Mr. STEVENS. Mr. Chairman, I will be back any day you ask me to be here.

Senator KERRY. I appreciate that very, very much.

Senator Stevens, do you have any more questions?

Senator STEVENS. Thank you, Mr. Chairman.

I apologize for not being here during your presentation of your statement. I am told while I was not here that you indicated that you would reassess next spring to see if we would need additional cleanup, is that right?

Mr. STEVENS. Could I elaborate on that, Senator?

Senator STEVENS. Yes.

Mr. STEVENS. There have been concerns expressed in some quarters that Exxon is going to delay the cleanup through this summer hoping or relying on nature to finish the job for us and that the job will in fact not be completed this year, as there may still be some indications of oil or the potential for further impact next summer.

We just put that in there in order to assure the people of Prince William Sound and the people of Alaska that if for whatever reason there is still some indication of oiling next summer, we will be back to deal with it. If you will, that is about as close to a guarantee as we can give you.

But let me again go back. The charge or the contention that we were trying to respond to is that we are slowing down or doing foot dragging—I think was the word that someone used earlier—in order to try to rely on nature.

Nothing could be further from the truth, and if you have any doubt about that, I suggest you visit the men and women who are actively involved in the cleanup activity in Valdez. I was there Monday.

Senator Stevens. Well, I just wanted to get this one point clear. That is that we have discussed before, Admiral Yost and I, as to whether or not it is possible to meet the schedule that Exxon has outlined for itself. And it is my understanding now that you are saying that it is your judgment that you have the capacity to meet that schedule that you have given to Admiral Yost, and it is the intention of your company to do so by September 15th, is that right?

Mr. Stevens. There is no question about it. I cannot give you any guarantees, but I can say this. We have since day one, we currently are, and we will in the future continue to do all that is humanly possible to deal with the impacts of this bill fully and effectively.

Senator Stevens. I am not sure this is the time to go into completely the question of my reaction to that comment, but I just asked my staff to give to Mr. Iarossi a letter that I received in the course of just examining through this. It is a letter dated October 7th. I have already given a copy of the Chairman of your company to Paul O'Brian of the Alaska Department of Environmental Conservation.

That has a three-page attachment or maybe it is four—four-page attachment dealing with the corporate oil spill policy and record of Exxon shipping. In it it makes a considerable number of comments concerning the resources that are available as of that date to deal with spills in the Valdez area.

It mentions, for instance, a team of 54 preselected and trained cleanup supervisors and 46 specialty and/or scientific advisors. Were they brought to the Valdez scene?

Mr. Iarossi. Yes, sir. The 54 cleanup supervisors, as the letter says, are divided into two teams of 27 each, and we do that in order to relieve the one team after each week.

What we actually had on the ground Friday night. That is, the evening of the first spill, we had 32 people in Alaska, 12 of which made it to Valdez before the airport closed. The other 20 were in Anchorage, and the first plane the following morning, they were there. So, we had 32 members on the scene by Saturday morning, and we continued to ramp up in the next couple of days.

And I can give you a chart of that, people mobilization we have already supplied to the Coast Guard.

Senator Stevens. I just have a brief thing to go into. I think we are going to get to that in detail on a subsequent date.

But, Mr. Chairman, I met Captain Bartholomew. We had a long discussion about the work of the Navy salvage people, and I have no questions of him and I know he has got a great crew that he is supervising. I want to see them more involved in overall research. Unlike the Coast Guard, they do move oil and they do have plans for cleanup throughout the world, and I am hopeful that we can get them more involved in future days. But I do not have any question for him. I just wondered if it would be proper to say sayonnara to our friend.

Senator Kerry. We would be delighted to excuse Captain Bartholomew.

Captain Bartholomew. I will take up your offer. I would like to say in closing, I appreciate your wisdom in the location of where you had me seated. Thank you very much.

Senator **Stevens**. Maybe the tension has sort of evaporated.

Mr. **Stevens**. I just tried to trade places with him, but he would not go for it.

Senator **Kerry**. Thank you, Captain, very much. We appreciate it. You see, there are friendly people in Alaska.

Mr. **Stevens**. I am very well aware of that over the last few weeks, Mr. Chairman.

Senator **Stevens**. There is a comment concerning a dedicated emergency response command van and supporting communications equipment. *Houston* could be deployed in a matter of hours. Was that deployed to Alaska?

Mr. **Iarossi**. Yes, it was, sir.

Senator **Stevens**. When?

Mr. **Iarossi**. It was deployed—it was ordered in the first week, and it got there at the end of the first week. It was put on our first command vessel, the first vessel we put out after we had oil on the beach. I believe that was the *Crystal Star*. So, that command van is on the afterdeck of the *Crystal Star,* and it has been there since that vessel was deployed early in the second week.

Mr. **Stevens**. The reason it did not move the first instant, the first day is because it was recognized that the spill was 25 to 40 miles away from Valdez, and the question was where should it best be located.

Senator **Stevens**. Well, the implication of this letter is that it is an emergency—why was it not moved by air?

Mr. **Iarossi**. It was moved by air. It was put on a C5A and moved to Alaska. It was put on a military C5A, moved to Alaska, trucked to Valdez and then put on the *Crystal Star* and became our first mobile command unit when we began, and it was moved down. Its first deployment was at Sawmill Bay.

Senator **Stevens**. You mentioned in that letter that you have in addition to the local cooperatives, Exxon is a member of two large oil spill stockpiles, specifically the tiered area response consortium in Singapore, and OSR limited stockpile in Southampton, England. Equipment from either of those stockpiles can be called upon to respond to a spill in Alaska and could be at a major airport within 24 to 48 hours. Was that moved within that time?

Mr. **Iarossi**. The U.K. stockpile, the OSR stockpile was mobilized at 4:10 Friday morning Alaska time. It was put on a plane the following day, and it arrived in Anchorage early morning of Sunday and was then moved to Valdez and deployed.

The primary equipment that went were four large skimmers. There were other auxiliary equipment, communications and things like that. Included with that movement was one of the U.K.'s experts, Mr. Brent Pantagorin and four of his assistants. We not only moved the skimmers, but we moved the specialists to go with it.

The second stockpile actually was the first one to be moved was the Clean Bay stockpile out of San Francisco. We did not deploy out of the Singapore stockpile because the San Francisco stockpile was much closer and had equipment better suited to our task.

That Clean Bay stockpile was mobilized at 3:54 in the morning the first morning. It actually arrived in Anchorage 9:00 p.m. of the first day and was in Valdez at 10:25 of the second day, that Saturday morning, 10:25.

The major equipment there was three skimmers, including one Norwegian designed skimmer that Commissioner Kelso has talked about. All of that equipment was deployed on that second day.

Also along with that came Mr. Rivera, who was the head of that activity and two of his assistants. So, again, we moved the skimmers and the people who knew how to run them.

Senator **Stevens**. Do you have the chart that shows the extent of the moving of the oil in the first three days?

Mr. **Kelso**. Yes, I do.

Senator **Stevens**. Have you shown that here yet? When I visited with you Friday morning on April the 1st, whether you know it or not, I walked away with the conclusion that you had come to the conclusion sometime, I think—as a matter of fact, I asked one of your people when did you come to the conclusion that the spill was not controllable? Can you tell me the answer to that question now? When did you come to the conclusion that it was not controllable?

Mr. **Iarossi**. If you mean controllable—if you mean by skimming with the equipment——

Senator **Stevens**. I mean in terms of controlling the spread of the oil that was in the water. That chart shows it in terms of three days.

Mr. **Iarossi**. Once those gale forces came through——

Senator **Stevens**. That was Sunday night.

Mr. **Iarossi**. The peak was Monday morning, and they continued all through Monday. By the Tuesday-Wednesday period it was obvious we were going to have a major beach impact I would say by Tuesday. And, in fact, I think Admiral Nelson who I was working very closely with during this period and I pretty much recognized that even on Monday afternoon when we had a two-hour overflight of the area, we could see from then we really had the potential for major impact and, of course, by Tuesday that had been confirmed.

Senator **Stevens**. I do not want to prolong this, but I want to try to get to the point of when you decided that it was not possible to control the spread of the oil and until somewhere around six o'clock Sunday night, is that right, Dennis, until about six o'clock it was still possible to have been dealing with control of the spill of the oil?

I did not find any sea fences deployed. I talked with the people who were working on deploying boom around Valdez. They told me that they had tried to deploy boom, and they had literally left their employment with Exxon because the boom that they were given continued to break, and it was not deployable, they could not keep it deployed.

Let me tell you one other thing. I was told there was not any attempt to get out in front of the oil as it drifted southwestward in those first three days. Is that right?

Mr. **Iarossi**. We had an agreed comprehensive plan, and we had all the approvals for the first time to implement that plan at 6:45 p.m. Sunday evening after a long meeting with Commissioner Kelso and his people and with Admiral Nelson and Commander McCall.

Senator **Stevens**. I am not talking about disbursements. I am talking about what I would consider to be a natural human reaction of how do I stop the spread of that oil. Was that abandoned? Was it ever part of the plan to prevent the spread of that oil?

The plan that I have in front of me indicates that it could be done. I have reviewed the plan of 1987, which this letter responded to, and that indicated there was a plan in place to deal with the spread of the oil and to pick it up.

I am trying to find out whether there was any attempt made to control it. If it was uncontrollable, we ought to know that. But was any attempt made to try to control it?

Mr. **Iarossi.** Every attempt humanly possible was made to first deploy all the boom we had and to deploy all the boom that was mobilized and brought to the scene. There was no boom that was ever laying idle that we could have deployed. As soon as we got it off the airplanes, off the trucks, it was deployed.

All of the skimmers that were available at the scene were deployed by the time I got there Friday evening. And we continued to move skimmers to the scene and to deploy them as soon as we could.

Mr. **Stevens.** One additional comment. And I read from the 200,000 barrel scenario in the contingency plan the most likely effective protection; that is, to prevent the oil from impacting shorelines at all, this can be done, of course, only by dispersing the oil at sea or allowing an open burn of the oil at sea.

We were trying to do everything we could through the use of dispersants to control and limit the spread through Saturday and Sunday. Admittedly, when the wind came up, 73 mile an hour gales on Sunday night, that was no longer possible.

Senator **Kerry.** Before the wind came up it is my understanding—if you will yield Senator—it is my understanding that the conditions were not such that the dispersants could work. There were two attempts. Is that accurate?

Mr. **Iarossi.** Our first attempt using a C130 was Saturday afternoon, and as far as I am concerned, it was a success. The Coast Guard has a videotape of that which we are not privy to.

Senator **Stevens.** The Prince William Sound, the gray area there, was approved before the spill for the use of dispersants. Wherever the red or yellow appears or the blue, it is my understanding without any further approval, that area could have been literally bombed with dispersants Friday, Saturday or Sunday.

Mr. **Iarossi.** There are two comments I would like to make. First of all, we never had approval until 6:45 p.m. Sunday night. There was a misconception. Preapproval is approval granted by the state and other federal agencies to the U.S. Coast Guard. It is not approval to a commercial company. We cannot put dispersant in the water because it is considered a pollutant under the Clean Water Act. We must have a permit to do that, and the Coast Guard has the only authority to do that. Preapproval does not grant us any authority at all.

Mr. **Stevens.** There are three parties involved, Senator.

Senator **Stevens.** I understand that this has been gone over when I was at another meeting, and I am sorry about that.

Mr. **Iarossi.** The second point, if I could just finish my answer—that preapproval was only for zone 1. The gray area that you talked about, if you see it, there is a dotted line across the top and below where this spill was on the first day and a half, and that area is zone 2. There is no preapproval for that. We could not even test in that zone.

So, there are just two clarifications. There was no oil for us to even test in zone 1 until about 1:30 Saturday afternoon. That is day two.

I think there are two very important points in recognizing that sequence.

Mr. **Stevens**. With respect to the effect of dispersants, I would like to submit for the record a videotape taken from a helicopter of the Sunday test, and it is very graphic. I apologize for the quality, because this not a production. This was actually being done on the scene.

Senator **Kerry**. That is very helpful, and the committee will receive that.

Senator **Stevens**. We have some real reluctance about these dispersants. Norway bans them. Canada, as I understand it, has indicated they are only effective in removing about 10 percent or less of Alaska crude, and I understand full well why in this area there was some reluctance to proceed immediately.

But by the time the oil got to that area, use of dispersants had been already approved. You are telling me that someone told you legally you still could not move until someone approved it, and you were seeking that from the Coast Guard, is that right?

Mr. **Stevens**. Let me take the first part of your comment. This particular dispersant that we were seeking to use in this instance is approved by the U.S. Environmental Protection Agency. It is approved by Environment Canada, which is the Canadian equivalent. It is approved for use and has been written up in a report in the last couple of months which I can submit to you by the National Academy of Sciences as well as by the State of California and, as Mr. Kelso has commented earlier, by the State of Alaska. It is approved in the U.K. and 10 or 12 other foreign countries. It has been extensively tested, and it was used in massive quantities to prevent the impact of oil from the Ixitoc blowout in Mexico a number of years ago.

We are not talking about something that has been invented in the last few years, Senator.

Mr. **Kelso**. Mr. Chairman——

Senator **Stevens**. Go ahead, Dennis.

Mr. **Kelso**. I think we need to get some perspective here, and I think the way you have described it is correct. We are talking about a period of time, now, that was ideal for the use of mechanical means for containment and for picking it up. We had virtually no wind, virtually no seas. We had clear skies.

I think that Mr. Iarossi's view of what is humanly possible is significantly different than my view of what is humanly possible because we saw ineffective operation with the equipment that was there.

But let me point this out specifically about dispersants. You are correct, Senator Stevens, that there are questions among experts about how dispersants are properly used because in combination with oil and distributed in the water column, the toxicity is significant, and it is the toxicity of that interaction between oil and water in conjunction with the additional material that is added by the dispersant.

But all of this is kind of off on a tangent because the real issue here is that Exxon could not deliver on either mechanical means or chemical dispersants.

Let me read to you some quotes from Mr. Iarossi's press conferences. First of all, bear in mind that the initial application which I have a copy of was made by Alyeska, and there was an attempted application of this stuff which was ineffective.

On Saturday Mr. Iarossi was asked about how the helicopter use of this material worked, and his quote was it was marginal.

On Sunday Mr. Iarossi summarized the activity on dispersants as follows—remember now, we never changed our preapproval. The only issue is whether the Coast Guard would say go ahead, and for the Coast Guard the issue was is it going to work. The conditions were absolutely incorrect for its use because with the calm seas, it is like using detergent in a washing machine. If you do not have energy in that sea state, you do not have sufficient disruption of the interfacial tension to cause the oil to disperse. That is the point.

So, here is what Mr. Iarossi said. This is referring to Saturday and Sunday. "Two important things happened late Saturday. We had our first dispersant test. Unfortunately the light conditions were so poor because of the cloud cover and the lateness of the afternoon that we were not able to visually identify the full test. So, we scheduled two more tests for Sunday of dispersants. The first one was mixed results. The second was spectacular. We were using different spray techniques in order to determine which was the most effective, and we were using two planes organized differently."

So, one was just mixed results and one was spectacular results. These results were reviewed with the Coast Guard and the state officials on Sunday afternoon and by 6:45 we had total concurrence with the plan.

That is not the picture that is being drawn now, but the top leadership in Exxon about impediments to their use. And I think the hearing record will show, the hearing record in Valdez will show that when requests were made to apply this stuff, they were granted by the Coast Guard and that there was no delay in the ability to use these materials because we wanted them to be considered in appropriate circumstances. That is why we had the zone 1 preapproval.

Senator **Kerry**. Commissioner and Mr. Stevens and Mr. Iarossi and company, what I must do at this time because we have yet two panels. We are running way behind here, but it is important testimony.

Senator **Stevens**. Well, I have not gotten to the question of outside of Prince William Sound. There is no plan yet for outside of Prince William Sound. When will we get one for outside of Prince William Sound?

Mr. **Stevens**. When the Alaska Department of Environmental Conservation finishes a survey of the impacted beaches, beach areas in conjunction with our help, and we know what needs to be done.

I should add, however, Senator, that there are roughly 150 people already involved in cleanup in some of the Kodiak—rather the Kenai Peninsula areas. But we cannot develop a plan until we have a full assessment of the impacted beach.

The reason that it has not been done to this point in time, as I am sure Commissioner Kelso will corroborate, is because of the weather and the overflight conditions. It has not been possible to provide that definitive survey. It is being worked on very actively and as soon as we get the survey information, a plan will be developed. And, in fact, that is one of the seven conditions that Admiral Robbins delivered in his letter last evening.

Senator **Stevens**. Do we have a commitment that it will be cleared up by September 15th, too?

Mr. **Stevens**. Yes, sir, you do.

Mr. **Kelso**. Mr. Chairman, just to wrap up very briefly, I disagree with Mr. Stevens that there is any bottleneck because of work remaining to do by the Department of Environmental Conservation. The work that is being done by DEC is the responsibility of Exxon. We are only doing it because we cannot afford to wait, and so we have gone ahead to do that survey work ourselves.

It is Exxon's responsibility. But the second part is that—let me quote from Exxon's May 1st plan. Senator Stevens is correct. There are still large areas of the Gulf of Alaska that are being omitted, and here I refer back to Mr. Stevens' suggestion that lightly oiled areas are going to be covered. This is from Exxon's plan.

"Lightly oiled areas might not require cleaning. It is expected that this will be the case for all lightly oiled areas, for all lightly oiled Gulf of Alaska sites. An exception to this is those accessible areas lightly oiled by tar balls."

What that means, Mr. Chairman, is that this entire area, any area here that is lightly oiled, Exxon is writing off. I think that is not acceptable. I believe that Senator Stevens is correct in saying that we still need to have definitive commitment as to what is going to happen outside the Prince William Sound area itself.

Mr. **Stevens**. One minute, Mr. Chairman.

Senator **Kerry**. How about 30 seconds because if I keep giving a minute rebuttal here, we are never going to finish.

Mr. **Stevens**. Well, I am not going to rebut. I am just going to say taking a sentence in a vast plan like that out of context does not convey the right impression.

Senator, I am sorry we did not respond to the desire of this committee to deal with the future. There is a lot more blame casting and finger pointing here that I am sure you are comfortable with. I share that feeling.

Let me just say that we in Exxon feel that there are many lessons to be learned from this accident. We have already taken many of these on board in our company and work is underway to recognize many others.

I assure the committee that we will be making changes as a result of what is admittedly a disaster. I believe that by our actions to this point—and I will say through the summer—we in Exxon have shown our intention to deal responsibly with the spill and its effects. We cannot undo what happened.

However, we have and are taking every reasonable action to limit the damage, cleanup and otherwise mitigate the impacts including the human dimensions of it. I thank you, Mr. Chairman.

Senator KERRY. Well, I thank you, Mr. Stevens and Mr. Kelso and Mr. Iarossi.

Senator STEVENS. I hope we have another public forum, Mr. Chairman, because I was there several times, and, Mr. Stevens, that is just not right. And you know it is not right. And the commitments that were made have not been kept.

The people that have asked for help have not gotten it, and the attitude of Alaskans is changing so rapidly toward the industry as a whole that it worries me for the future of the country. The last great hope for the oil industry in America and our people, even the development oriented Chamber of Commerce groups are changing, and they are changing because of the failure of your company to keep its commitments.

We are going to meet this afternoon, and I will tell you privately also, but that should not go on the record unchallenged. Exxon has not met its commitments to date, and unless it keeps the schedule now, I am going to go forward with others options.

As I told the President, if you do not keep these mileposts, we are going to federalize this through Congressional action. That is the only thing that will happen because existing law will not give the President, according to his advisors, the right to do it without letting you off the hook financially. So, we will have to act to do it.

Mr. STEVENS. I share your concern about the impact that this tragic accident may have on the balance between risk and benefits of development of this nation's natural resources. All we in Exxon can do now is what we are doing.

Senator KERRY. Let me just say to underscore—and there is obviously a lot of heat here—I sure hope you do because I would say the balance of your relationship in a lot of other places, not just there, is hanging in that response, and I am sure you sense that.

I do not think there is any question about that but for whatever reasons there are serious and growing question marks at this point in time. I, too, wish we had more time. I was not here during the principal exchange that you had, and I regret that.

The record is going to remain open, and we are going to submit some questions to you relative to the contingency planning, natural resource assessment process, and all of those matters that are essential to whatever we consider here.

And obviously we would appreciate the cooperation of all parties in trying to help us do that.

I would like to ask the next panel to come forward, and I thank you all for your patience. If the panelists would please take their seats as rapidly as possible.

Dr. Roger McManus, President, Center for Marine Conservation, and Ms. Michelle O'Leary of the Cordova District Fishermen United, accompanied by Dr. Riki Ott of the Cordova District Fishermen also. Thank you very much for your patience.

And I do not know if you have a prearranged order that you would like to go in. Mr. McManus, why do you not lead off.

STATEMENT OF ROGER McMANUS, PRESIDENT, CENTER FOR MARINE CONSERVATION, ACCOMPANIED BY RICHARD TOWNSEND, TOWNSEND ENVIRONMENTAL

Mr. **McManus**. Thank you, Mr. Chairman.

Senator **Kerry**. Let me emphasize, there is one other panel after this. Senator Breaux is coming in here at 1:30 in order to commence the hearings on the portion regarding tanker design, traffic control, and other aspects of this, so we do want to try to stay on schedule.

If we do not question you at length now, it is not because we are not interested in the answer to those questions publicly, obviously, but because we have come to the end of our time, although I think you will agree what we have been going through is very important.

We will be submitting questions that we may ask you in writing in order to do that.

Mr. McManus.

Mr. **McManus**. Thank you, Mr. Chairman.

My name is Roger McManus. I am the President of the Center for Marine Conservation. The center is the largest national conservation organization dedicated to the marine environment.

With me today is Richard Townsend of Townsend Environmental. The two of us and another center colleague recently spent over two weeks in Alaska investigating the *Exxon Valdez* oil spill and the federal and industry response. We plan to release a report on our findings within the next several weeks.

Mr. Chairman, I would like to preface my remarks this morning, or almost this afternoon, I guess, by noting that we have to be cautious about the notion about leaving our messes to Mother Nature to fix. I find this a very disturbing notion. Recent evidence with regard to ozone depletion, global climate change and other serious environmental issues suggest that we are going to have to start being responsible for our stewardship of the earth's resources, and we have to stop being complacent about the notion that we can leave it to Mother Nature to fix up after us.

But to the item on today's agenda, I want to first note that we have found six underlying problems we believe have greatly contributed to the problems associated with this oil spill.

The first is an acceptance by the Congress and the public of unrealistic assumptions concerning the risks of tanker accidents and the technology available to clean up resulting oil spills.

The second is an acceptance by Congress and the public of arguments against needed vessel safety standards and traffic controls.

While I have a great deal of respect for the Coast Guard, we see serious problems with what happened in Valdez. We see a failure of the Coast Guard to demand that Alyeska be capable and able to respond in the way that they suggested they would be, and there are serious questions that need to be asked about how vessel traffic was tracked in that instance.

We see confusion resulting from the conflicts in federal law concerning liability for the damages caused by the spill and the cleanup of the oil, and that resulted in uncertainty regarding agency responsibilities. We see a lack of accessible funds for the agencies to use to respond in an emergency.

And finally, I hate to add, we see a failure in leadership, an absence, if you will, in the fire of the belly of certain administrators to attack the problem when they saw it happening and save what resources they could.

Congress can resolve many of these problems directly, but how you address the failure to use available resources and personnel to maintain oversight and do all that can be done in an emergency is more difficult.

Mr. Chairman, there are many questions we can ask about federal planning and the response to the oil spill disaster, and you and the American public have a right to answers to those questions.

Chief of concern among us is why there is such confusion among state and federal agencies about their responsibilities. I think there is a legislative problem there. Why when the Coast Guard continually expressed displeasure at the low level of readiness of Alyeska to clean up spills, and in 1986 threatened to stop tanker traffic for this reason, was the spill response capability allowed to deteriorate to the point of the March 24th accident?

Mr. Townsend pointed out to me earlier the very small portion of the contingency plan devoted to a 200,000 barrel spill. Here is the section of the plan dealing with 200,000 barrels.

I think this is unrealistic when you have vessels, as Senator Breaux pointed out, that are carrying over a million gallons of oil in that area all the time.

Why do we have a system that allows a company that is civily or criminally responsible for an accident to be largely in control of the research documenting its effects? It is like, if I may say, the fox being asked to submit a report on the remaining chickens after he has completed his work.

Weeks after the oil first touched the Kenai Peninsula the U.S. Fish & Wildlife Service had not one dedicated boat or plane in that region documenting the wildlife damage and rescuing oiled sea otters. We are wondering why. Why did the service not consult with its pool of the leading sea otter experts and technicians in California immediately after the spill? There are many questions concerning the use of the service's resources.

Our impression, I am sad to say, because we are great supporters of the U.S. Fish & Wildlife Service, was that while many of their civil servants were worried about the problems of the spill and wanted to help, they were getting no leadership to do so from the Department of the Interior here in Washington or from their regional administrators in Alaska.

Several weeks ago I met with a service official in Anchorage who proceeded to tell me that the sea otter rescues in Prince William Sound were just a public relations problem. I am serious about that. That is what he said.

This attitude explains a lot to me about why the service did not respond more forcefully to saving the wildlife caused by the oil spill itself. I have to add at this point, Mr. Chairman, my understanding is that if Senator Stevens had not done what he had done to urge greater response for wildlife efforts, that we would not have the modicum of success that we have had so far.

Mr. Chairman, this country needs comprehensive legislation to address several of the problems identified above. We need aggressive legislation tightening vessel standards, shipping regulations, and clearly establishing liability where it belongs.

We need one Federal agency—perhaps the Coast Guard or NOAA—to have the authority to direct forcefully the response to such spills. We need clear directives to Federal agencies concerning their responsibilities and we need to ensure there are funds available to enable those agencies to respond effectively.

I am delighted to hear about the pending legislation and I hope that we will have many of these answers—or, solutions to many of these problems in the future.

Earlier this month the Center for Marine Conservation called for an independent GAO investigation of the Federal response to the Exxon Valdez oil spill. We strongly urge that you request such a review, particularly with respect to the response of the Department of the Interior and the circumstances surrounding the accident with respect to controls by the U.S. Coast Guard.

Upon completion of our report we plan to initiate a review of the U.S. Fish & Wildlife Service's and the National Marine Fishery Service's assessments of wildlife and fisheries damages from the spill and we also are planning to urge that Prince William Sound and other vital marine areas in Alaska are declared national marine sanctuaries.

I would like to conclude by addressing some of the responsibilities of Exxon in this matter and take issue with some of the statements made earlier about them doing all they can. You may be aware of the fact that Exxon has recently tried to get the Fish & Wildlife Service to allow permission of release of possible diseased sea otters in the wild. The service must take a firm stand that Exxon provide whatever long-term care is needed for these animals and seek the advice of the Marine Mammal Commission regarding protocols for the otters' release.

The long-sought Seward Sea Otter rescue facility just opened yesterday and already it is almost filled to capacity. Because of the Valdez facility's quarantine, oiled otters are being left to die in the wild because of inadequate facilities. The first otters recovered in Prince William Sound were so heavily oiled and poisoned that many of them were doomed to die. But Mr. Chairman, the otters now being collected outside of Prince William Sound are lightly oiled and have a chance to live if only they are given one.

The Seward facility must be greatly expanded immediately and the Fish & Wildlife Service should take definite steps to ensure this happens. The Service needs, immediately, too, to survey the otter populations that have been oiled off the Alaska peninsula for almost two weeks and the center is calling today for Exxon to be prepared, under the Service's direction, to build a third sea otter rescue center in Kodiak.

Thank you, Mr. Chairman. This concludes my remarks and Mr. Townsend and I will be pleased to answer any of your questions.

[The statement and questions and answers follow:]

STATEMENT OF ROGER MCMANUS, PRESIDENT, CENTER FOR MARINE CONSERVATION

Thank you Mr. Chairman and members of the Committee. My name is Roger E. McManus and I am the President of the Center for Marine Conservation. The Center is the largest national conservation organization dedicated to the marine environment. With me today is, Richard Townsend of Townsend Environmental. The two of us and another Center colleague recently spent over two weeks in Alaska investigating the Exxon Valdez oil spill and its aftermath.

The most immediate product of our work will be a report we plan to release within a few weeks. I have provided a draft outline of that report to your staff. They have suggested that upon its completion we submit it to your Committee as the Center's contribution to the written record of this hearing along with this short testimony.

Much of the media and public focus has been on the death of wildlife and the destruction of their habitats resulting from the spill, and the economic impact on local residents, and on native peoples whose livelihood depends on the sea. These direct consequences deserve our attention and reflection. However, the story of the failure of our federal government to respond effectively and be accountable for its responsibilities must also be told and remembered. There is substantial work to be done to ensure our readiness to respond to future oil spills.

During our review of the government response to the Exxon Valdez oil spill, we have been impressed with the actions taken by the Alaska Department of Environmental Conservation and the State's Department of Fish and Game, as well as by sections of the National Oceanic and Atmospheric Administration and the National Park Service. But, Mr. Chairman, institutions heretofore considered "custodians of the public trust", particularly the U.S. Coast Guard, the Department of the Interior and its U.S. Fish and Wildlife Service, failed that trust.

The shortcomings of the federal government in responding to the oil spill can be attributed to six underlying problems:

- Acceptance by the Congress and the public of unrealistic assumptions concerning the risks of tanker accidents and the technology available to clean up resulting oil spills.
- Acceptance by Congress and the public of arguments against needed vessel safety standards and traffic controls.
- The failure by the U.S. Coast Guard to demand that the Alyeska oil spill response efforts meet established standards, and to track adequately vessel traffic.
- The confusion resulting from the conflicts in federal law concerning liability for the damages caused by the spill and the cleanup of the oil, and the resulting uncertainty regarding agency responsibilities.
- The lack of easily accessible funds available to the agencies to at least cover short term direct expenditures concerning their response.
- A failure in leadership; the absence of a "fire in the belly" of key government officials to attack the problem and save

> whatever they could of the resources for which they are responsible.

The assumptions under which the nation has addressed this problem, the liability and responsibility questions, and the availability of the needed funds are all problems that Congress can resolve directly. How you address the failure to use available resources and personnel to maintain oversight and do all that can be done in an emergency is more difficult.

Mr. Chairman, there are many questions concerning these problems for which the American public and the Congress have a right to answers. Many of these questions address our basic preparedness to deal with such accidents.

Why did none of the oil spill contingency plans, from the national level down to those for Prince William Sound, anticipate a spill of this size? Why was there such confusion among state and federal agencies about their responsibilities? Who will be responsible in the future to ensure that such plans realistically identify the scope of potential spills and the damages they can cause, clearly assign responsibilities, and to ensure readiness?

Other questions address the failure to use existing resources to prevent the problem. When employees of Alyeska and citizens of Valdez routinely confirm that there were alcohol abuse problems among the tanker crews, where was the Coast Guard? Why, when the Coast Guard continually expressed displeasure at the low level of readiness of Alyeska to clean up spills, and in 1986 threatened to stop tanker traffic for this reason, was the spill response capability allowed to deteriorate to the point of the March 24 accident? Did Coast Guard officers question whether their politically appointed leaders and Congress would support their efforts to aggressively enforce our nation's transportation safety and environmental laws? Have they been assured there should be no doubt now?

Why didn't the Coast Guard know the Exxon Valdez was seriously off course and why did they not warn the vessel? Had Coast Guard personnel become habituated to tankers cutting corners to save time?

Why was there no coordinated plan regarding the most basic of research questions and damage assessment needs? Weeks after the spill government and private scientists were openly debating the protocol for taking water samples in Prince William Sound. Why? Why was it left to the initiative of the Alaska Department of Environmental Conservation to provide a clearing house for the more than 70 ad hoc research studies now in progress?

Do we really want a system that allows the company civilly or criminally liable for such an accident to be largely in control of the research documenting its effects? Are we going to ask the fox for a report on the remaining chickens?

Do we want a system, for example, in which the U.S. Fish and Wildlife Service officials are unaware or unconcerned that Exxon contractors are restricting the access of federal officials to dead animals controlled by federal law. Weeks after the spill, the Service had no protocol and was excercising no authority over the autopsies of dead sea otters and migratory birds. Why?

There are many other questions concerning the failure of government leaders to take the initiative with existing resources. "Chaos and Cosmetics" is an expression used by residents of Prince William Sound to describe the U.S. Fish and Wildlife Service's response to the oil spill. Weeks after the oil first touched the Kenai Peninsula, the U.S. Fish and Wildlife Service had not one dedicated boat or plane in that region documenting the wildlife damage and rescuing oiled sea otters. Why? No wonder Exxon felt emboldened to argue that there were no otters to justify another sea otter rescue center at Seward. Why was it almost a month after the spill before the Service publicly advocated for the Seward sea otter rescue facility?

Why did the Service not consult with its pool of the leading sea otter experts and technicians immediately after the spill? Why, even after the Service threatened local fishermen with prosecution under federal law for rescuing sea otters, did it not bring up all of those needed personnel to help rescue the oiled animals and teach others to do so? Why did Region 7 not immediately enlist the help of needed Region 8 researchers in the same building in Anchorage? Why was there not one senior Service official stationed in Valdez to direct boom placement and cleanup operations to protect wildlife for which the Service is responsible? While the Service's dedicated civil servants and scientists were wringing their hands over the lost opportunities to learn and to help, apparently senior officials in Region 7 and the Department of the Interior were sitting on theirs.

Several weeks ago I met with a Service official in Anchorage who proceeded to tell me that the sea otter rescues in Prince William Sound were just a public relations problem. That attitude explains many of the above questions and more.

That interaction and others left us with the clear impression that the Service was confused about whether it was supposed to leave everything to Exxon, and that it questioned what difference its efforts would make in any case.

Mr. Chairman, that attitude is unacceptable to me and I am willing to bet it is unacceptable to the American public who has entrusted the stewardship of our wildlife and other natural resources to the government. I am deeply disturbed that in the face of the largest oil spill in American history, individuals responsible for the imperiled wildlife are seemingly indifferent and compassionless.

Shortly after the Exxon Valdez went aground in Prince William Sound, the Exxon Philadelphia was disabled off the coast of Washington. Think about that ship going aground on the outer coast or near the San Juan Islands. Think about the Exxon Valdez going aground in Long Beach. Think about a spill in the Florida Keys or in Cape Cod.

This country needs comprehensive legislation to address several of the problems identified above. We need aggressive legislation tightening vessel standards, shipping regulations, and clearly establishing liability where it belongs. We need one federal agency, perhaps the Coast Guard or NOAA, to have the authority to direct forcefully the response to such spills. We need clear directives to federal agencies concerning their responsibilities. And, we need to ensure that there are funds available to enable responsible agencies to respond immediately.

Regarding those more problematic issues concerning the failure to use existing resources and to exert initiative, early in March the Center for Marine

Conservation called for an independent GAO investigation of the federal response to the Exxon Valdez oil spill. We strongly urge that you request such a review, particularly with respect to the response of the Department of the Interior and the U.S. Coast Guard. We are anxious that report should clearly identify to what extent uncertainties caused by conflicts in law and the availability of funds inhibited agency response, but we also want to know to what extent more could have been accomplished with existing resources.

Upon the completion of our report we intend to initiate a review of the U.S. Fish and Wildlife Service's and the National Marine Fisheries Service's assessments of wildlife and fisheries damages from the spill. In reviewing legislation on this issue, we urge Congress to make clear its intent that the full cost of replacement of the natural resources destroyed by this tragedy are recovered for the American people and directed to restoring the areas and wildlife damaged by the oil. Prince William Sound and the other spectacular wildlife habitats of the Gulf of Alaska are among the crown jewels of this nation's natural heritage. Thousands of sea otters and hundreds of thousands of migratory birds will die because of the spill. You should not let the Department of the Interior get away with letting those responsible pay solely for the commercial market value of our wildlife as feathers for pillows or meat for dog food.

In addition, the Center for Marine Conservation plans to seek aggressively the designation of Prince William Sound and other priceless, Alaskan marine habitats as National Marine Sanctuaries. If Prince William Sound had been declared a sanctuary before the oil spill as we advocated, the regulations governing oil transport could well have been tightened to prevent such an accident and there would be no questions about the liability for those responsible.

Sadly, for many species of wildlife in Prince William Sound this will be a "silent spring". Instead of a time for birth and renewed life, this spring is one of aborted fetuses, of death and destruction. We should never forget what has happened and do our utmost to ensure that it will never happen again.

Finally, I want to note that I am personally, deeply saddened about our findings concerning the the Coast Guard and the U.S. Fish and Wildlife Service. We have always been supportive of these two fine agencies. They are vital for the conservation or our nation's resources, they are underfunded, and they need your help. But, each needs to do some real soul searching to find out what went wrong, and reclaim the excellent reputations that their dedicated personnel so richly deserve.

Thank you Mr. Chairman, that concludes my remarks. Mr. Townsend and I would be pleased to answer any questions you and the Committee may have at this time.

Center for Marine Conservation
Formerly Center for Environmental Education, Est. 1972

Roger E. McManus
President

1989 JUN 26 PM 1:43

June 21, 1989

The Honorable Ernest F. Hollings
Chairman, United States Senate
Committee on Commerce, Science,
And Transportation
Washington, DC 20510-6125

Dear Senator Hollings:

This letter responds to your June 7, 1989 correspondence including questions you have posed to me with respect to my testimony before your committee on May 10 concerning the EXXON VALDEZ oil spill. I am pleased to have the opportunity to be of service to the committee, and my responses to your questions follow.

1. In your testimony, you call for a GAO study into the government reaction to the EXXON VALDEZ spill.

    - Would you clarify for me why we need this study?

Response: Currently the EXXON VALDEZ oil spill and the government's response is the focus of numerous federal and state government, and private reviews. These reviews include scrutiny of the circumstances of the accident and related Coast Guard procedures, and the Coast Guard's and industry's cleanup response.

The Department of the Interior's response to the spill has received much less attention. The major agencies involved with the Department's response are the National Park Service and the U.S. Fish and Wildlife Service. While these Services have major roles as part of the Department in assessing the damages from the spill, there have been serious problems with confusion concerning their authorities and funding for preventing damages to wildlife and lands under their jurisdiction for which they are responsible and for mitigating for those damages. In addition there have been serious concerns about policy decisions within the Department that limited its response to the spill. These problems and concerns require a thorough review, such as may be provided by a GAO study, to ensure that Congress and others understand the Department's response to the EXXON VALDEZ oil spill and to take steps to ensure that the Department has the resources, authority, and direction needed to respond more effectively in the future.

Particularly disappointing was the U.S. Fish and Wildlife Service's response to the spill. Significant deficiencies in that response have been identified by Service personnel and others. The underlying causes for these deficiencies include:

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- **Direction from the Department of the Interior to leave the response to Exxon**

  FWS personnel report that they were told to leave the job to Exxon; there was uncertainty about the degree the Service could interject itself into decisions concerning cleanup operations and other aspects of the response to the oil spill. See, for example, the May 18, 1989 letter (copy enclosed) from Walter O. Stieglitz responding to my testimony. In that testimony I questioned why the Service did not have an official in Valdez to direct boom placement and cleanup operations for habitats critical to sea otters and migratory birds. On page 4 of his letter Mr. Stieglitz emphasized in the second paragraph: "I remind you once again, this is not a Federalized spill. ... the Coast Guard is the lead Federal agency and serves as the on-site coordinator. The Service has absolutely no authority to direct boom placement."

  Yet, early in the cleanup process, Exxon established priorities for protecting and cleaning haulouts for pinnipeds, species for which the National Marine Fisheries Service has lead responsibility. Clearly Exxon was willing to consider such advice if offered, even if the Services did not have the authority to direct actions. This situation raises questions addressing both the initiative of the FWS to respond to the spill under its legal authority and the consequences of the limitations of that authority.

  Any uncertainty by agencies responsible for federal wildlife and lands about what role they should play in responding to accidents like the Exxon Valdez oil spill potentially can contribute to an overly conservative or otherwise unsatisfactory response. It is important to understand the degree to which such uncertainty influenced decisions in this situation, and to evaluate the need for Congress to provide additional direction and authority to ensure that the agencies play a proper role in responding to such emergencies.

- **Uncertainties regarding funding**

  NPS and FWS regional directors were faced with making needed expenditures to prevent or mitigate damages from the oil spill to the resources for which they are responsible with no guarantee whether or when the expenditures would be reimbursed. The degree to which such funding uncertainties constrained necessary federal action also must be understood. Proposed changes in federal law regarding such accidents should ensure that adequate funds are accessible for emergency responses by these agencies and by the National Marine Fisheries Service. Moreover, any funds budgeted for other purposes that had to be diverted for emergency actions regarding the Exxon Valdez oil spill clearly should be reimbursed.

Deficient policy decisions

Several of the Department's decisions appear to have severely limited its response. Included among those decisions was the

> failure to enlist immediately the assistance of needed experts from Region 8, including California sea otter biologists and technicians. In developing new policies to improve federal response to such accidents, Congress must know whether existing problems are due to limitations or conflicts in authorizing legislation, or whether they are due to the failure to utilize effectively existing authority.

With regard to the National Park Service, available press coverage suggests that the Regional Director of the National Park Service disagreed with instructions from Interior regarding his response to the oil spill (see, for example, the attached April 14, 1989 Anchorage Daily News article). Such evidence concerning disagreements within the Department further supports the need for a GAO study to establish to what extent the Department's response fulfilled its obligations and addressed the need.

As summarized above, available information suggests that limitations in existing legal authorities and funding, and policy decisions within Interior all contributed to problems that affected the Department's response to the EXXON VALDEZ oil spill. Congress must understand how and to what extent each of these factors contributed to the problems the Department encountered in responding to the spill to ensure that needed changes to federal law and policy are made.

- How would you structure the study to obtain the needed information?

Response: First, I would document the specific instructions the NPS and the FWS received from the Department of the Interior regarding their roles in the cleanup effort and their relationship to Exxon. The enclosed May 26, 1989 letter from Albert C. Camacho in the Office of the Secretary suggests that those directives were not issued by the Secretary's office. The enclosed copy of the referenced Anchorage Daily News article suggests directives were made by Vern Wiggins, the Deputy Undersecretary, appointed by President Ronald Reagan. These directives, no matter who issued them, should be compared with applicable law and with the contingency plans, and evaluated to ascertain the degree to which they provided for an adequate response to the spill.

Second, I would review the existing procedures for reimbursing the Services for their response to the accident, particularly with respect to damage prevention and mitigation. The adequacy of those procedures needs to be assessed in light of the Department's response to the EXXON VALDEZ oil spill.

Third, the actual response of the Services should be reviewed and compared to the needs identified by their staff, by other state and federal personnel, and by non-government organizations and others familiar with the response.

Fourth, the study should provide findings regarding the extent to which the Department's response to the EXXON VALDEZ oil spill was limited by 1) deficiencies or conflicts with existing law that limited the Department's response, 2) funding constraints, and 3) internal policy decisions.

Finally, the study should review existing law and any proposed legislation designed to address problems that have been identified. The study should recommend any additional actions needed to ensure that the Department has the legislative authority and financial resources to respond effectively to such accidents in the future.

2. Why in your opinion didn't the Alaska Region of the U.S. Fish and Wildlife Service immediately request the assistance of the California Sea Otter biologists and technicians after the Service was aware of the magnitude of the spill?

Response: The extent to which Departmental directives and funding constraints affected the Service's response is not clear, but there appear to be other, apparently overriding factors contributing to this particular decision.

First, Walter O. Stieglitz, the Service's Regional Director for Alaska, did not feel their expertise or hands were needed. He articulates this view on page 3 of his May 18 letter to me.

> There were feelings on the part of some that we should gather up every otter "expert" or "specialist" in the Lower 48 and bring them all to Alaska immediately after the spill occurred. I did not think that was a good idea then and I still don't. In the early stages there was only a single otter facility in Valdez located in a rather hectic work environment. It was my conclusion then that it would not be productive to bring all these people up at one time to a single location as we would have had otter experts sitting on top of one another in Valdez. Also remember that they all had full time jobs of their own and, if they were brought to Alaska, something was going to be left undone.

I responded to his letter on June 7, 1989, copy enclosed. On page 3 of my letter I addressed the question of the immediate need for the California personnel and answered in part:

> The Exxon Valdez oil spill is the biggest in American history, and it is the greatest, most immediate threat to sea otters in Alaska. I am not persuaded by your suggestions that the routine work of the Service's Lower 48 sea otter biologists prevented their immediate and full attention to this tragedy. I feel certain that they would disagree with that view. With all respect, the facts based on our observations in Valdez and Seward and on our conversations with individuals associated with the rescue work support our conclusion that each and every one of those experts were needed, and that there were plenty of boats available for them to work on simple rescue and training operations, if nothing else. Whatever value one may wish to give sea otters in Alaska, countless animals died because the Service did not make use of available personnel in rescue operations. There should have been no potential for such personnel "sitting on top of each other".

Keep in mind that, as Mr. Stieglitz acknowledges on page 3 of his letter, the Regional Director halted otter rescue efforts by private citizens including the vast majority of fishermen contracted by Exxon to rescue birds. Dozens of boats were actively being used to rescue birds and to collect dead wildlife, but could not attempt to rescue sea otters they encountered. Rescue staff employed by Exxon and Service personnel in Alaska independently told us the lack of qualified Service personnel was a major bottleneck in rescue operations.

The California personnel were clearly needed for rescue operations, but also to establish and conduct needed research. There was particular concern that those personnel learn from the experience to be better prepared for a spill in the range of the threatened California sea otter. Nevertheless, Mr. Stieglitz further noted on page 3 of his letter:

> I was rather surprised at the attitude of some outside interests that all the sea otter expertise is located in the Lower 48. This simply is not the case and represents a real disservice to Service biologists and others headquartered in Alaska.

I responded on page 3 of my letter in part:

> This statement reinforces our concern that the attitude embodied in it contributed significantly to decisions not to make full use of available Service expertise. Mr. Stieglitz, no one that I know of has suggested that all such expertise lies in Lower 48, and no one could reasonably suggest that in the face of such a catastrophe it would be an affront to Alaska personnel to bring in others with expertise and experience.

Second, I believe that the leadership of the Service's Alaska region did not subscribe to the view that extensive efforts with regard to sea otters were needed to fulfill their responsibilities, and therefore securing the additional California personnel was not believed necessary or desirable. As noted in my testimony a Service official in Anchorage told me that the sea otter rescues in Prince William Sound were just a public relations problem. This was a senior member of the Director's staff who had direct responsibilities for responding to the spill. As of mid April when the Center's staff visited the Service's Anchorage office, the plan as described to us was to continue the limited rescue efforts until a few days after they stopped finding otters in Prince William Sound and then shut the operation down. These and other experiences, including those regarding the problems with bringing the Seward otter facility on line, left us with the impression that views about the ecological or other values of sea otters influenced decisions to limit the Service's rescue efforts and not to immediately secure the assistance of the Service's California sea otter personnel.

I hope these responses are helpful. Please contact me if we can be of further service.

Sincerely,

Roger E. McManus

Roger E. McManus

Senator KERRY. Thank you, Mr. McManus. Ms. O'Leary?

STATEMENT OF MICHELLE O'LEARY, CORDOVA DISTRICT FISHERMEN UNITED, ACCOMPANIED BY DR. FREDERICKA (RIKI) OTT

Ms. O'LEARY. Thank you. Mr. Chairman, Senator Stevens, I am Michelle Hahn O'Leary. I am speaking for CDFU, Cordova District Fishermen United. I live in Cordova, Alaska and have fished in Prince William Sound in Bristol Bay for 15 years.

From 6:30 a.m. on the morning of the spill and on through these last 48 days, fishermen have responded quickly, efficiently, responsibly and wholeheartedly to this tragic disaster. Much of the cleanup that has been accomplished has happened because of their tremendous efforts and determination to protect the environment and their lifestyles.

Fishermen have been voicing their concerns about the movement of crude oil over Prince William Sound since the late 1960s. Many of the same issues we are dealing with here today regarding this spill were addressed by Cordovans in a hearing before the House Merchant Marine Committee in 1971 and again in a lawsuit which we won in 1973.

In 1977, when Representative Keith Specking spoke before the Cordova Fisheries Institute and asked the oil industry spokesman how they would respond to a scenario of a fully-loaded tanker going aground on Bligh Reef, ripping open its holds and spilling its cargo of crude oil, the oil industry replied with assurances that as highly unlikely as it was, there would be the best technology and equipment to quickly clean up the spill.

As you can see, this is not a new issue to us but a longstanding concern for our livelihood and the beautiful environment. Now our past concerns are expressed not with words, but with the toxic evidence of the oil industry's inexcusable lack of upgraded technology, equipment and research.

Action and change are needed in the regulations and the monitoring of the oil industry. We are still in kindergarten here, while much of the world is in graduate school. Senator Stevens addresses many important issues that need changes in his bill. His proposal is a good and welcome start.

In addition to it, we need to look beyond our own shores. There are some excellent programs such as Sullom Voe in the Shetland Islands, that has the program of Sautier. They are light years ahead of us in pollution control and tanker management. This keeps their environment clean while the oil industry makes large profits.

When we compare our Third World oil recovery equipment and technology to these programs, it is no wonder we are angry and frustrated. If we had had a normal spring season storm pattern, the *Exxon Valdez* probably would have capsized or broken up, just as Exxon feared it would. If that had happened the rest of the oil, up to three times the amount of the spill, would have poured out of their ruptured holds.

That still would leave an amount two times greater than the present spill in the remaining holds of the tanker that would now be lying on the ocean floor. Future spill legislation should address spills equal to the size of the largest tanker's capacity.

Why did we ever bank on good luck with weather when this could have happened? Next time, we need to have a lead agency with the power to look past recovering cargo and industry dollars. We need an agency that can take any appropriate measure, one that can say, burn it. Blow that tanker sky high.

I could tell you endless instances of Alyeska and Exxon's failings. I have mentioned a few in my written testimony regarding their behavior with booms and skimmers. This spill could have happened in front of any coastal state. It is time to take firm steps to see that one never does.

We appreciate your efforts here and we sure would welcome field hearings in Prince William Sound to deal with these issues. I will be happy to answer questions after Dr. Ott's statement.

[The statement follows:]

STATEMENT OF MICHELLE HAHN O'LEARY, CORDOVA DISTRICT FISHERMEN UNITED

My name is Michelle Hahn O'Leary. I am here today representing the Cordova Distict Fishermen United (CDFU). I began commercial fishing in Prince William Sound in 1974. The first fishery I ever participated in was the herring roe-on-kelp harvest which usually takes place less than 2 miles from the Exxon Valdez's devastating spill. I loved it, was hooked and have been commercial fishing for 15 years now.

My husband Michael O'Leary (a third generation Alaskan) and I each have a limited entry pound herring roe-on-kelp permit, a fishery that has been closed because of the oil spill. We also crew on herring sac roe seiners here in Prince William Sound, and we both have fished off and on in the wild harvest of herring roe-on-kelp for many years, both of these fisheries have been closed by the oil spill. We fished halibut for 3 years in the sound. My husband has crewed for salmon seining and gillnetting here, and I have tendered for the salmon gillnet and seine fisheries. Together we have seined sac roe herring for 3 years in Bristol Bay and we driftnet for salmon in the bay as well, an area the fishermen again ask Congress to put off limits to offshore oil drilling to prevent just this type of tragedy and disaster.

We are members of CDFU, I am on the board of directors, serving as chairman of the pound herring-roe-on-kelp division. We also are members of the United Fishermen of Alaska and the Bristol Bay Driftnetters Association.

When I came to Cordova in 1974 I fell in love with its beautiful rugged northern marine environment, surrounded by steep mountains frosted with glaciers and ice fields. I found the people living in harmony with the land and sea, individuals united with a common love for their lifestyles and independence. I never left, and instead made Cordova my home.

My husband Mike and I built a house that sits on a peninsula jutting into Orca Inlet near Cordova. There is a rich salmon spawning stream, teaming with life bordering the property. We cohabit daily with land otters, sea otters, seals, eagles, Canada geese, many species of waterfowl and shore birds that feed and haul out on the beach in front of the house. These are our companions and friends. From the time of the oil spill their lives have been in danger, and we have felt helpless, frustrated, and anguished at our inability to help them. I think I can say most of the residents of Prince William Sound feel this way.

In 1988 Cordova was the 8th largest fishing port for ex-vessel (gross) value in the United States, and 4th largest in Alaska. Cordova is a town that is totally dependent on the fisheries of Prince William Sound. Our lifestyle is ruled by the tides and the fish that inhabit Prince William Sound instead of by a clock. Almost all the businesses in Cordova directly support the fishing fleet and their needs. Now much that is Cordova has been disrupted, and fouled by the Exxon Valdez oil spill and Alyeska's failure to do its job as we were led to believe it would.

In the late 60's and early 70's CDFU fought long and hard to try to protect Prince William Sound and their way of life from the transportation of oil through the waters of Prince William Sound and the Gulf of Alaska. We did this because we felt adequate environmental studies had not been done to address the impact of a spill or pollutants on the marine ecology, and hence upon our lives and livelihoods.

CDFU also felt (and had the data to support our beliefs) that the oil industry was incapable of responding quickly to a spill, and that their clean-up efforts in these treacherous waters with ferocious weather patterns would be insufficient at best.

Three CDFU members, Knute Johnson, Ross Mullins, and Dell Goeres, along with one representative from the business community, George Ballum, brought these concerns here to Washington, DC, in 1971 in hopes of having them addressed by Congress and the Nixon administration. (I have attached for the record a copy of the 1971 testimony they gave before the House Merchant Marine Committee.) Little came out of these meetings except seeming lame assurances by different governmental agencies that the best available technology would be utilized to safeguard the environment.

In hindsight, it appears a quick response to an oil spill and the oil spill cleanup technology exist only on paper stored in offices, while a huge and lethal blot of oil roams uncontrolled across Prince William Sound and the Gulf of Alaska. It seems only the environmentally conscious people of Cordova, and a few friends, could see the emperor was wearing no clothes.

On March 24th at 6:20 a.m. my husband and I were awakened by a phone call from a fellow fisherman in Seattle, Washington, telling us of the oil spill. We immediately called the State troopers and Jack Lamb, acting president of CDFU, and suggested we coordinate with the fishermen of Valdez, Whittier, Seward, Homer, and the native villages of Tatitlek and Chenega to help Alyeska boom off the tanker or assist in any way possible with our boats, equipment, and professional local knowledge of the currents, tides, and weather patterns of Prince William Sound.

Jack Lamb (see Lamb's attached testimony) called the Coast Guard, Alyeska, and other agencies in Valdez to let them know we were available immediately with 20 boats to deploy boom. No response. By mid-afternoon on the day of the spill over 50 boats from Cordova and Tatitlek were ready to go. We still never received a phone call back despite many more attempts to contact Alyeska. Many of the fishermen flew the spill from 7:00 a.m. on throughout the rest of the day. With each flight report CDFU became more appalled as no efforts were being made to boom off the tanker. We assumed Alyeska had a large stockpile of boom material adequate to handle a sizeable spill on hand to be deployed. It seems, however, they had only minimal low quality boom, fit only for calm water use. Yet they could not even issue a command to have that deployed. If they had other clean-up materials on hand, it was not apparent in Alyeska's initial response.

At one of the early Exxon press conferences it was announced that boom was in place around the tanker, when in fact it was not. This same scenario was played many times with different versions of the theme. Even after the low quality boom was put around the tanker it continually broke, fractured, and pulled apart as oil gushed under it in the unusually calm weather. Ralph Lohse and his three brothers-in-law, all from Cordova, were working their boats in a volunteer effort at Exxon's request, to hold boom together around the tanker. Ralph made repeated attempts to contact Exxon and inform them of the situation and the need for real boom capable of containing at least some of the spill. They were ignored totally. They finally gave up returning to Cordova when the original boom material was so broken it could no longer contain oil, and no new boom material was forthcoming. On their way back to Cordova they again heard Exxon say at the press conference that the tanker was boomed off, when in reality the boom's only function was for show and tell.

Fishermen, by the nature of their business, are innovators because they must creatively solve problems when they face a lack of proper tools and materials. They are often called upon to do this in times of emergency. It was obvious that the five hatcheries in Prince William Sound be immediately secured from the approaching oil. Four of these hatcheries are the largest salmon hatcheries in the world. We guickly realized if any quality boom material was going to be found we better find it ourselves. CDFU and PWSAC (Prince William Sound Aquaculture Corporation) immediately went on a worldwide search for boom. In response to our plea in the media for high seas/ocean standard barrier boom many foreign and domestic companies called us to say Exxon had turned down their offer of boom. Knowing we needed more boom, many of these companies asked if we could line up shiping and airplanes so that boom could be on hand when it was needed. It was through the fishermen's, PWSAC's, and the State of Alaska Department of Environmental Conservation's persistence that boom material bagan to arrive to secure the hatcheries. The fishermen continue to protect these hatcheries by constantly partrolling and manning the deflecting booms or by trapping oil in hooks made of boom and mopping it up with oil snares called pompoms.

Fishermen working with the Department of Fish and Game were instrumental in mapping out the key salmon spawning streams and herring spawning beaches, along with important bird rookeries and marine mammal haulouts in the Sound. This information was quickly presented to Exxon and accepted by them as important point of defense. Initially Exxon was to slow to acquire enough boom to protect many of these sensitive areas, some of which did become oiled.

Further, the defensive plan for the protection of uncontaminated beaches and streams states that bays full of oil should be boomed off so that the oil can be controlled until it can be picked up by skimmers. This was not done, or even attempted by Exxon in the first three key weeks of the spill, because they had not ordered enough boom.

It should be noted, the original 1976 contingency plan required a barge capable of holding 5,600 barrels of oil be stationed at the Alyeska terminal. That barge was later replaced with a flat barge which is capable of holding only oil response materials not oil. At the time of the spill this barge was damaged, in disrepair, and not even loaded and ready to go. In addition there was no barge available to hold any oil if intensive skimming operations were to work.

Exxon continually refers to the 34 to 51 skimmers it has working in the sound. The smaller skimmers that were finally deployed at the beginning of the spill were inefficient at best. When Exxon obtained the navy belt skimmers that can operate more effectively in association with thickened, aged oil, they were unable to off load them effeciently. For the first month of the spill only three or four skimmers could operate on any given day, because Exxon had not bothered to obtain sufficient off loading equipment.

The navy skimmers that are in operation are in use less than eight hours a day, while the fishermen, who tow booms for the skimmers, are willing to take advantage of the sixteen hours of daylight available for cleanup in the Sound at this time of year.

Much of the time the skimmers are in operation they end up skimming only water because they do not have spotter airplanes directing their movements. Oil moves in a random, jagged pattern with the currents and it will quickly move away from the set course of the skimmers. The oil industry should be well familiar with this problem as airplane guidance was successfully used in the Santa Barbara oil spill.

The oil Exxon recovers from the skimmers is in an emulsified state and can be as much as 75% water in content. It is possible that in the Exxon reports of "barrels of oil recovered" that this oil contains a significant amount of water, and therefore may be an inaccurate protrayal of recoverd oil.

Another problem with the skimmers is that they quickly clog up with seaweed and other floating materials. With the onset of spring and floating seaweed has become prolific. It tends to gather in the natural rips caused by the current and tides along with the free floating oil. Boats towing boom for the skimmers have been told by Exxon to let go of the oil they have collected if it contains more than 10% foreign materials besides the oil. This seaweed, if not picked up, could eventually foul fishing nets with oil causing a loss of fish, nets, and fishing time. It seems criminal that after working so hard to corral the oil, fishermen should be asked to release it because the oil industry has not put enough forethought, research and money into developing working oil recovery techniques.

Perhaps the reason why Alyeska and Exxon were not better prepared can be explained by their reply to a request in the current contingency plan to respond to the scenario of a 200,000 barrel spill in the Sound. They reply "Alyeska pipeline service company believes it is highly unlikely a spill of this magnitude would occur." (See the attached address of Representative Keith Specking before the Cordova fisheries Institute in 1977, where he questions the oil industry by presenting a scenario of a fully loaded tanker going around on bligh reef spilling its cargo.) If Alyeska was concerned about acting in an environmentally responsible manner they should have believed it could happen and should have been more than adequately prepared.

You may have heard that the fishermen are making a lot of money as a result of the cleanup effort. Exxon's spokesman referred to the fishing boats as "Exxon's navy." What an insult! The fact of the matter is fishermen went out voluntarily immediately after hearing of the spill to protect the Sound. Fishermen stayed at work in the cleanup without any intention of payment by Exxon. Exxon later required contracts of most of the fishermen engaged in the cleanup because Exxon was concerned about their further liabiliities. We went out to help defend the Sound and its creatures, and to protect the hatcheries ~~and our~~ lifestyle. We have no interest in wearing Exxon's hat. We would prefer our fishing jobs to those of oil cleanup.

Furthermore, Exxon has said they are willing to advance money on all reasonable claims. Exxon's spokesman, Don Cornett, said $10,000,000 was being made available immediately to satisfy claims. The fact of the matter is that this money was not available because Exxon could not develop a claims process that could adequately handle the situation. Exxon is now trying to force fishermen into signing off any liability towards Exxon in their 1989 losses when they try to get the advance settlement money. Exxon says that they will not satisfy what they call "secondary claims" presented by the business community of Cordova regarding losses from the oil spill and the cleanup of it. The entire economy of the community is primarily and directly related to fishing. How could these be secondary claims? How will Exxon address the claims of the native villages whose largely subsistence existence is dependent on a clean and healthy marine environment?

During the last week of March through the first week of May in a normal fishing season, there would be over 1,500 crew members, cannery workers, tendermen, and floating processors spending money in Cordova getting ready for the herring to arrive, participating in catching them, and processing them. Since all the herring fisheries have been closed, along with the blackcod and shrimp fisheries, the community has not only lost this revenue, but also the tax they would have received from the fishery in the form of raw fish sales. The state also gets a portion of the raw fish tax. Additional revenue is earmarked for the Alaska seafood marketing institute. You can understand how this can snowball. Other communities in the state are facing the same battle with Exxon, as the Kodiak, lower and outer Cook Inlet herring fisheries were closed.

If fishermen are allowed to fish salmon in Prince William Sound, it will be far from a normal season. Many areas in the south west and northern districts may be closed or restricted in area, because of the chance of contaminating equipment from oily beaches and floating debris. The fishermen will be forced to double up in the open areas of the sound and on the Copper River Flats. This means the fish pie will have to be cut in littler pieces. This will resort in intensive competition, of some form of co-oping, as yet unkown. To say this will be a normal fishing season does a gross injustice to the fishermen and towns people who are struggling to cope with these drastic changes in their lives.

The Alyeska Pipeline Company has reaped over 12 billion dollars in profits from Alaksan crude oil at something near 2.5 million dollars a day. It has had 16 years to prepare for an oil spill in Prince William Sound. It seems as though the oil industry should have spent some of these profis on researching the latest technological advances and equipment, with field testing in all kinds of weather, and compiling that information with the location of materials around the world on a central computer system that would be available for the entire world's input and use.

The oil industry's lack of proper equipment, absence of efficient oil spill response teams, and failure to clean up its mess is deplorable and inexcusable. Fishermen should not have to do Alyestka's job and locate boom materials for them, arrange for transportation of oil clean up materials, design supersucker setups to remove oil from their unreliable skimmers, and in essence by their oil spill response team.

The power to regulate, monitor, and control the oil terminal and the shipping of oil should not ride solely in the hands of the oil industry. There is clearly an important role here for strong government regulations and ovesight to protect state and federal resource interests. In addition, there is a definite need for public participation in decisions affecting local citizens at facilities such as the Alyeska terminal. There are programs at other oil terminals, such as the port of Sullom Voe in the Shetland Islands, that allow for regional input and control in deciding how the terminal and shipping of oil is managed. The oil industry makes money and the public's interests are also protected. This is the time to consider what corrective steps need to be taken legislatively and administratively.

If there is one thing for the people of Prince William Sound to be thankful for it is the previously inexperienced and exceptionally long stretch of good calm weather. This has allowed much of the oil to float out of the sound into the Gulf of Alaska without contaminating all of our beaches with crude oil. As it is some 350 miles of beaches in Prince William Sound have been oiled. Our mixed blessing has been the grief of the communities of Kodiak, Seward, and Homer, as well as a loss to the nation with the oiling of Kenai National Fjords, and Katmai National Monument in the Gulf of Alaska.

It is important to remember that the Sound was saved from total devastation by an act of God in the form of good weather, not because the spill wasn't as serious are we thought or because Exxon some how "got their act together" and cleaned it up. The luck with the weather only only saved many beaches in the Sound, but it probably saved the *Exxon Valdez* from breaking apart and capsizing with *5 times* the amount of oil on board as the spill itself. We can only imagine what would have happened if this spill had taken place farther away from the marine terminal and an airport during normal storm patterns in Alaska. Exxon had all the time it needed do a good job saving its ship. Exxon has the best possible natural circumstances for recovering their ship and their oil.

1989 is the 100 anniversary of commercial fishing in Prince William Sound. The first cannery was built in Cordova in 1839. Although the natives and been harvesting salmon for many years it was the commercial beginning of 99 years of bounty provided by the beautiful, rich and renewable recources of the Sound. What a sad, destructive, and pathetic situation fishermen and all the members of the sound face in this historic 100th year.

This was forecast to be awn exceptional year for commercial fish harvests, based on the Alaska Department of Fish and Game's projection of harvest levels. Instead of celebrating this historic 100th year, we find ourselves crying as we harvest oil coated dead sea otters and deck load our boats with birds boomed because they ingested toxic oil as they attempted to free their wings from the black goo. There are few things in this world that will tear your heart out quicker than the pained screams of sea otters as they try to get the oil out of their eyes. The people out on the oiled beaches call this the "dead zone" because not even a snail is left alive after up to five inches of lethal oil has coated the beaches. What a poor trade we the American people have made, by exchanging a renewable resource based on sound management policies made with the utmost concern for the environment for a nonrenewable resource based solely on profit margins.

The lives of the residents of Prince William Sound, man, other land and sea mammals, fish, birds, and shellfish have been violated, disrupted, contaminated, and even destroyed by the wreck of the *Exxon Valdez,* and the dismal failure of the oil industry's response. Already over 5,000 dead birds have been brought in, which is a just a fraction of what experts think have been killed. Over 550 sea otters have died. We cannot and should not have to deal with another dismal and senseless oil spill like this again.

We look forward to working with this committee and other committees of the Congress to develop effective corrective legislation in this area.

Senator **Kerry**. Dr. Ott? Thank you.

Dr. **Ott**. My name is Riki Ott. I am a Cordova resident and fisherman. I own a salmon drift gillnet permit and have fished in Prince William Sound for four years. My training is in marine toxicology. I have a master's in oil pollution and a doctorate in sediment pollution.

On behalf of the Cordova District Fishermen United and the United Fishermen of Alaska I wish to thank members of this Committee for inviting the fishing industry to testify. First, I wish to quell the rumor that it will be fishing as normal in Prince William Sound this year. It is not going to be normal fishing this year or next year, or probably the year after that.

Why? Normal fishing means we have crews for our boats. We have tenders to take our fish to processing plants. We have crews to process the fish at the processing plants. We have markets clamoring to buy our fish and the areas we fish are only closed by Fish & Game for brood stock escapement purposes.

Right now, the usual fishing tenders and crews are working on beach cleanup. The current joke in Cordova is that processing plants are offering a quarter more a pound if fishermen process their own catch, because the processors may not be able to, due to crew shortages.

Seahawk Seafoods has estimated that it would cost $4.3 million more to hire crew based on Exxon's prevailing wage structure, but it is no joke that our markets have all expressed concern over product quality and that parts of our normal fishing ground in Prince William Sound will be closed to salmon fishing this summer because of heavily contaminated beaches.

Future seasons may not be normal because many of the potentially-affected fishery stocks are not ready for commercial harvest for two to five years. There has never been an oil spill in an area where large stocks of wild pink and chum salmon spawn intertidally.

Our ability to predict and measure the long-term impact of the *Exxon Valdez* oil spill on our fisheries largely depends on the quality of the long-term scientific assessment program and the ability of our fish stocks to survive or to recover depends on effective beach cleanup, whether by man or by nature.

As of May 5th, only two miles of shoreline were cleaned, and clean here is a relative term. It definitely does not mean pristine. There is no way the remaining 398 miles within Prince William Sound will be clean by September 15th, at least not with the present efforts and techniques.

We must be in the dark ages of beach cleanup technology. There are people out there wiping off one rock at a time with absorbent pads. The washdown techniques do appear to be removing oil, slowly but surely, but there is concern that some of the oil is mixing with sediment and sinking off the beaches, rather than being removed from the water.

To speed up the process Exxon has requested to use dispersants for beach cleanup. Dispersants could dissolve oil off the rocks and drive hydrocarbons into the water column or deep into the gravel beaches. The effects of dissolved oil on the intertidal and nearshore biota could be potentially devastating and far outweigh the effects from a quick fix beach cleanup.

Believe it or not, it is still possible for Exxon to make a worse mess of things than they already have. Through improper methods of beach cleanup or through not protecting beach cleanup crews from exposure to hydrocarbons or through careless methods of waste disposal. I would very much like to answer any specific questions on these critical issues.

In conclusion, the attitude of the oil industry does not appear to have changed one iota since the *Exxon Valdez* oil spill. Senators, this flagrant display of irresponsibility and lack of commitment by the oil industry to the people of the State of Alaska and the nation has got to stop.

The fishing industry is not against the oil industry. We only request now, as we have all along, responsible development of resources. This includes a firm commitment from industries that have the potential to impact the water quality and the environment to minimize this impact. It includes a firm commitment from the resource agencies that permit compliance will be strictly monitored by thorough monitoring of operations and it includes a firm commitment from Congress that compliance with its stipulations and promises will be strictly monitored and enforced.

Thank you.

[The statement follows:]

STATEMENT OF FREDERICKA (RIKI) OTT

My name is Riki Ott. I am a fisherwoman from Prince William Sound, Alaska. I own a salmon drift gillnet permit and have fished Prince William Sound for four years. I have also longlined for halibut commercially and for sablefish as part of a killer whale research project in the southwest district of Prince William Sound—the part hardest hit by the Exxon Valdez spill on Good Friday.

I have a six-pack captain's license and have operated my vessel as a charter boat in the southwest district and all over Prince William Sound. But my concern for and love of the Sound goes much deeper than commercial interests: I have kayaked in many of its fjords; sport fished in many of its bays and coves; camped on many of its beaches; picked berries, hiked, and hunted in many of its hills.

As a resident of Cordova and concerned fisherwoman, I am currently serving on the Board of Directors of the Prince William Sound Conservation Alliance, the Copper River Fishermen's Cooperative, the Cordova District Fishermen United (CDFU), and the United Fishermen of Alaska. I am speaking today on behalf of the United Fishermen of Alaska, as chairman of the habitat committee, and on behalf of CDFU.

My training is in marine biology and fisheries: I have a masters in oil pollution (University of South Carolina, 1980) and a doctorate in sediment pollution (University of Washington, 1986). Because of my background, Bob Blake and the other directors of the board of CDFU gave me the Alyeska case, which I have been working on for one and one half years.

I have learned that the oil industry in Alaska is an iceberg that the State of Alaska, the Environmental Protection Agency (EPA), Congress, and the administration have been dodging since 1973—when President Nixon signed the Trans-Alaska Pipeline System (TAPS) authorization Act to overturn the successful lawsuit by the fishermen and the environmentalists.

CDFU brought their suit to block the marine leg of the TAPS and construction of the Valdez terminal because of their concerns about resource impacts. For example, many of the pink and chum salmon spawn on intertidal beaches and would, therefore, be particularly vulnerable to an oil spill the fishermen knew that "exceptionally strong safeguards would be necessary to protect the traditional and historic resources and user groups from (short and long term effects of oil pollution) . . . suggested safeguards included strong regulations, strong active enforcement, and stiff penalties for violators" (CDFU letters to Gov. Miller, 1969 and 1970.)

Congress overrode CDFU's lawsuit in 1973, but not the fishermen's concerns about water quality. Congress acknowledged these concerns and stipulated in the TAPS legislation that there would be a contingency plan and a waste water treatment system at the terminal and that the waste water treatment system would be reviewed and upgraded every five years to ensure that the best available technology was always being utilized (section 23: B & C).

The contingency plan (1987, 1-3) states that *Alyestka* will direct cleanup operations of spills resulting from: TAPS operations; the marine terminal at Valdez; and operation, involving tankers, carrying . . . (TAPS oil) occurring at the Valdez terminal, in Port Valdez, Valdez Arm, or Prince William Sound . . . cleanup operations will be conducted by Alyeska . . . in such a manner as to not require assumption of control of such cleanup operations by federal or state officials . . ."

So what happened?

In the next several months, and possibly years, of hearings resulting from the *Exxon Valdez* oil spill, Congress will hear one key word repeated a lot: cutbacks. Not all the cutbacks were authorized. For example, there were:

Cutbacks during initial construction of the Valdez terminal;
Cutbacks on completion of terminal construction;
Cutbacks in the environmental pollution control system at Alyeska;
Cutbacks in the contingency plan;
Cutbacks in the Environmental Protection Agency's budget; and
Cutbacks in the Coast Guard's budget.

What bearing do all these cutbacks have on the oil spill? The first hint of trouble came in 1980 when the fully loaded tanker *Prince William Sound* lost power and came within 30 minutes of colliding with an island in Prince William Sound; then again in 1985 when CDFU and Charles Hamel & Associates threatended to file suit against Alyeska over mismanagement of the ballast water treatment plant and operations with resulting violations of the environmental permits; and again in early 1989 when oil was spilled during two separate incidents during onloading (in one spill of 55 barrels total, over 20 barrels were lost despite the fact that the spill occurred right at the terminal).

In essence, over the past 12 years it is apparent that the oil industry has simply not committed its resources to protecting our resources and environment; and to contaiment and mechanical cleanup—the preferred option for the fishing industry.

In her testimony, Ms. O'Leary vividly described how over the first three days of the spill, with weather conditions perfect for mechanical cleanup, the oil sat in the middle of Prince William Sound and stretched, ameboa-like, back and forth with the tides. Alyeska deployed skimmers that scooped up 30 and 60 barrels of oil before they needed to unload; skimmers with a capacity of 10,000 barrels an hour sat idle in Norway. Alyeska deployed booms best suited for use in calm protected waters; ocean high seas barrier boom sat stockpiled in cities throughout the country.

Instead of attempting to obtain the better quality equipment, the oil industry mad a strong push for dipersant application—the preferred option for the oil industry. Out of sight, out of mind. As early as mid-afternoon on good friday, dipersants were arriving in Valdez by the planeload. By the time the oil industry reacted, the weather had changed: the wind had picked up and sent the oil shooting down into environmentally sensitive areas in the southwest district of Prince William Sound.

If dispersants were a miracle cure for oil spills, they would be widely accepted and utilized throughout the world. But this is not the case. Simply put, use of dispersants is a tradeoff: it increases the toxicity of oil to some animals and decreases it for other animals. For example, dipersants also "disperse" the natural oils in the coats of sea otters and the feathers of marine birds increasing the risk of hypothermia for these animals. Dispersants increase the toxicity of oil to many animals in the water column, including fish and the tiny floating animals called zoo-plankton which serve as the basis of the marine foodweb. Dispersants are also not very effective at dispersing Prudhoe Bay crude oil in subarctic marine environments: Dr. Merv Fingus, head of chemistry and physics for Environment Canada (the equivalent of the U.S. EPA) reported that dispersants dissolved only 10% of Prudhoe Bay crude oil when applied in cold water laboratory conditions.

In a desperate attempt to keep the oil off the beaches, dispersants were applied in environmentally sensitive areas. Effects were closely monitored by representatives from the Departments of Environmental Conservation and Fish & Game. The last dispersant test was on Friday, April 14. The test proved ineffective: all parties agreed to halt further applications.

Now we are left with millions of gallons of oil plastered on about 400 miles of beach—a distance roughly equivalent to the coastline from Boston to the Jersey shore. The oil has worked its way deeply into the loose gravel and could potentially impact the highly productive intertidal zone for, literally, decades to come.

The intertidal zone is a critical habitat area in the spring. Herring are coming into shallow water to spawn on kelp and other seaweeds. Salmon fry are migrating out of the intertidal gravel beds in which they overwintered and developed from the egg stage. Fish eggs, larvae, and fry are extremely sensitive to hydrocarbons because these life stages contain high levels of lipids (fats) which selectively concentrate hydrocarbons in the tissues. Hydrocarbons in levels of one part per million and less are known to be lethal to salmon fry.

Wildlife also utilize beaches in the spring. One of the world's largest concentrations of migrating waterfowl and shorebirds congregate on beaches to feed on small animal and plant life. Deer forage for kelp and other edibles along the open beaches until the snow pack melts in the forests. Eagles and carnivorous animals such as wolves, bears, and coyotes scavenge and hunt on the beaches, again until the snow pack melts. These animals are all suspectible to the toxic effects of hydrocarbons obtained through ingesting contaminated food.

Crude oil weathers and biodegrades extremely slowly in cold temperature environments and is, therefore, extremely persistent. The oil will leach out of the gravel beaches into the surrounding interstitial water and from there into the intertidal and nearshore environment: Thus, the oiled beaches will serve as a potential source of contamination for years to come.

The nearshore environment is a critical habitat for juvenile salmon, crab, and other young organisms as it serves as a nursery grounds until these animals migrate into deeper waters. Many of these young animals are more sensitive to hydrocarbons than their adult counterparts, hydrocarbons dissolved in the water column, whether near or off shore, will potentially kill or disrupt development of many juvenile fish, including pollock and halibut, and larvae of king, tanner, and dungeness crab and shrimp.

Because the young of many commercially harvested species do not reach harvestable size or sexual maturity for anywhere from two (pink salmon) to seven (herring) years, the full effects of the *Exxon Valdez* oil spill on the fisheries resources, the commercial fisheries, the Prince William Sound communities, and the environment may not be known for several years.

Petroleum hydrocarbons can also affect humans as many of the compounds in crude oil are powerful carcinogens and mutagens which can affect humans at all life stages, including embryos. Short term effects include dizziness, nausea, and skin rashes. Long term effects could include cancers, systemic toxicity (with liver and kidney damage) and neurological disorders (brain damage). The risks of incurring damages from hydrocarbons increase with increasing exposure. While the long term risks of cancer from exposure to crude oil are thought to be relatively low, no safe level of exposure to carcinogens has been demonstrated. Also, the combination of physical and chemical hazards, remote work sites, and limited safety training make the cleanup a high-risk occupation for workers, according to Eula Bingham, a former head of the U.S. Occupational Safety and Health Administration.

According to the taps legislation, *Alyeska* is responsible for "rehabilitation of natural resources (including but not limited to . . . restocking fish or other wildlife populations and reestablishing their habitats) that" are damaged or destroyed from operations of any part of the taps system (9.C.2). The question remains, of course, will they?

Nothing will reverse the action of Exxon and Alyeska that have caused this terrible travesty in Prince William Sound. However, as you look to improvements that can be made, we think you should consider the following.

I. *The Prince William Sound and Cook Inlet traffic control systems should be upgraded to and beyond the original (pre-1984) standards as follows:*

(1) build radar sites in the middle of Prince William Sound (Naked Island) and at the entrance to Prince William Sound (either Hinchinbrook or Montague Island) so traffic can be fully monitored from the entrance to the end destination;

(2) review the radar systems utilized in Prince William Sound and Cook Inlet and at all shore-based radar stations within these areas;

(3) review the surveillance programs of vessel traffic into and out of Port Valdez to ensure constant contact with vessel traffic;

(4) review radar maintenance policies to assure the system is maintained at or above accepted industry standards;

(5) request that all tankers within PWS have a tug escort from the entrance to the destination, and vice versa;

(6) require that tanker traffic be limited to daylight hours only between the tanker anchorage at Knowles Head and the tanker terminal, Alyeska, and vice versa, until the above requirements are implemented;

(7) require that tankers transporting TAPS oil between PWS and Cook Inlet use the outside passage (i.e., enter and leave PWS through Hinchinbrook Entrance).

II. *Tankers and ships involved with the transportation of hazardous substances, including TAPS oil, in the Gulf of Alaska and Alaskan waters should be upgraded as follows:*

(1) eliminate third party ownership of tankers involved in the transport of TAPS oil by requesting that only tankers directly owned by the parent oil company owners of Alyeska be permitted to transport TAPS oil;

(2) request that the 16 tankers rated as "low" in Arthur McKenzie's 1987 "Guide to the Selection of Tankers" be eliminated from the TAPS trade, along with any tankers which receive a "low" rating in the McKenzie ratings in future years;

(3) request that owners of the 8 tankers rated as "fair" in Arthur McKenzie's 1987 "Guide to the Selection of Tankers," along with any other tankers which receive a "fair" rating in the McKenzie ratings in future years, be notified that, should any of these tankers be rated as "low" in the McKenzie ratings in subsequent years, these tankers would be eliminated from the TAPS trade;

(4) request that the Coast Guard contract an independent consulting firm to expand the 1988 "Marine Structural Casualty Study" (Purtell et al.) to determine the relationship between structural failures and: hull length; tanker age; double versus single hulls; location of trade (Gulf of Alaska, North Atlantic, etc.); weather (if possible); failure location; seasonal dependence; recent inspection; and all other pertinent variables;

(5) request that the Coast Guard contract an independent consulting firm to develop a revolving plan for U.S. flagship tanker construction and replacement incorporating the results of the above study; and

III. *The Coast Guard's and the industry's personnel policies should be reviewed and upgraded, including but not limited to the following:*

(1) request that all captains who operate tankers within PWS and Cook Inlet have pilotage licenses for these areas;

(2) request that all captains operating tankers within PWS remain on the bridge of the tanker from the entrance to the destination while the tanker is underway;

(3) request that another officer remain with the captain on the bridge of tankers within PWS from and to the entrance until replaced by a pilot;

(4) request that all pilots operating tankers within PWS remain on the bridge of the tanker from either Hinchinbrook entrance, if the pilot can be safely transferred, or Knowles Head to the destination, and vice versa, while the tanker is underway;

(5) request that officers on bridge-watch for tankers outbound in PWS pass a breathalyzer test before the tanker is allowed to leave the terminal;

(6) request that officers applying for positions with vessels transporting hazardous substances in the Gulf of Alaska are more carefully screened, specifically with respect to their past drinking/drug record; and

(7) request that the National Transportation and Safety Board review the manning requirements for all vessels transporting hazardous substances.

IV. *The federal resource agencies' budgets should be increased* so that these agencies can:

(1) be equipped with the staff, money, and time to pursue all cases involving spilled oil, realizing that fines collected from tanker owners could potentially exceed the cost to the federal government of hiring additional personnel (and we encourage this at the state level as well); and

(2) review oil spill regulations, including the TAPS fund about which we now have serious doubts, in consultation with the UFA and the appropriate regional fishing organizations, and raise the penalties so that these agencies can impose realistic, stiff fines for spilling oil; and

(3) investigate the oil spill clean up technologies and methodologies used in countries such as Norway, an acknowledged leader in mechanical methods, from the perspective of targeting containment and mechanical removal with the best available technology as the primary oil spill response for this country.

V. *The federal resource agencies should review all federal oil spill contingency plans and that the plans should specifically include the following:*

(1) evidence that the recommended equipment (booms, skimmers, etc.) is the Best Available Technology (BAT);

(2) provisions that the BAT is stockpiled at the sites designated in the new contingency plans (i.e., Alyeska, CIRO, hatcheries, etc.);

(3) provisions that the BAT is also stockpiled on site at boat harbors (i.e., Cordova, Seward, Kodiak, Homer, Ketchikan, Sitka, etc.) in sufficient quantities to enable the rapid deployment of men and equipment to protect critical habitat areas which should be pre-designated in the appropriate contingency plan;

(4) provisions for oil industry-sponsored annual sessions to train hatchery personnel and fishermen in boom deployment and other containment/recovery techniques;

(5) provisions that the ability to implement the plan rapidly be maintained at all times.

VI. *The federal agencies should review the dispersant and burn policies* from the perspective that these methods do not remove the oil but disperse it into other compartments, specifically:

(1) determine the short- and long-term toxicities of these methods on sea life, wild life, human life, and the environment;

(2) determine the effectiveness of these methods at dispersing Prudhoe Bay crude oil, unweathered and weathered, in subarctic marine environments;

(3) include the option of burning U.S. flagship tankers to mitigate environmental damages from large oil spills.

VII. *The entire Alyeska terminal, including the ballast water treatment system should be reviewed by the Department of Interior or an independent consulting firm, as per the Congressional stipulations in the TAPS legislation.* This is necessary both to upgrade the environmental pollution control systems (which has never been accomplished in 12 years of operation) and to determine what the facility needs in terms of number of crude oil storage tanks to ensure that there is adequate storage capacity for oil at the terminal should there be an emergency or weather related delay in tanker traffic requiring the pipeline throughput be slowed or stopped. Currently, because of the inadequate number of crude oil storage tanks, the oil companies are forced to bring tankers into the port in hazardous conditions despite the danger to the environment and the public.

IX. *The federal government should take immediate measures to set up, and have Alyeska fund. Technical Advisory Groups* (TAGs) at oil industry facilities that handle or process Prudhoe Bay crude oil, including Alyeska, the North Slope, Cook Inlet, etc., and that these TAGs are specifically:

(1) modeled after the Santa Barbara County, CA, or similar programs;

(2) composed of representatives from local communities, the fisheries, and the hatcheries, if appropriate, because it was demonstrated in the Exxon Valdez oil spill that the local people are the most responsive in an emergency, took the most constructive actions, were the most knowledgeable about the local area, and were the most concerned about their welfare, environment, and resources;

(3) mandated to oversee, monitor, and review operations, including oil spill contingency plans, as primary goals;

(4) empowered to contract independent consulting firms to achieve primary goals; and

(5) empowered to enforce permit compliance through stiff penalties.

The fishing industry as a whole is not against the oil industry. We only request now, as we have all along, responsible development of resources. This includes a firm commitment from industries that have the potential to impact the water quality and environment to minimize this impact. It includes a firm commitment from the resource agencies that permit compliance will be strictly enforced by thorough monitoring of operations. And it includes a firm commitment from Congress that compliance with its stipulations and promises will be monitored and enforced.

Surely these requests are not unreasonable.

Senator **Kerry**. Thank you all very, very much. As I said, we are going to have to curtail the questioning orally now. I am just going to ask you one question though Doctor, and maybe Senator Stevens has one he wants to ask before we do go to the last panel.

You heard the testimony of Admiral Yost. You have heard the response of Mr. Stevens about the rate of cleanup and the level of cleanup. Based on your expertise and the testimony you have just given us, what is your assessment of the capacity of Exxon to fill its promise, as you currently understand the work effort?

Dr. **Ott**. They would need to make some changes. You would need to get in more crew and more equipment. As it is going right now, I do not believe they would be able to do it.

Senator **Kerry**. With what degree of more crew do you think—I mean, can it be done?

Dr. **Ott**. Well, honestly I do not think so. But they could remove significantly more oil than they are, if they get in more crews and more equipment to different beaches. I think 200 people per beach is kind of maximum density. I think we need to spread out a little.

Senator **Kerry**. Mr. McManus, let me say your testimony is also very important and I regret that we cannot pursue it because that was one of the original things that brought us here—the wildlife preservation question.

I think Senator Stevens and I would be interested to know what paid U.S. official is responding as that individual did to you, because if that is their concept of wildlife conservation, we have a serious problem. Perhaps you want to share that with us afterwards, but we will pursue the areas that you raised, because they are essential in terms of the longer term efforts this Committee is going to be making.

Mr. **McManus**. May I make one point, Mr. Chairman and that is that while we have heard a lot of debate this morning and this afternoon about the capacity of Exxon to provide for cleanup of the beaches, I would point out that there is a lot more that can be done—a whole lot more that can be done to continue to rescue and rehabilitate wildlife and at the same time provide the critical data to assess the damages. That has not even been scratched yet and there is certainly a considerable amount of resources that could be expended still effectively in that area.

Senator **Kerry**. Senator?

Senator **Stevens**. Let me make one statement. I do not want to ask questions. When you see these two young women you understand why men do not win the Iditerod. I just say this, Mr. McManus. I too was appalled at the seeming feeling not only of the uncontrollability of the spill, but the uncontrollability as far as the effects on wildlife. As you know, we have changed that attitude a little bit.

What bothers me now is, as I look at this, is well, Exxon had a van for moving—I never saw it, but I take their word for it that it came—men and equipment, but there was no modular system for moving in to take care of wildlife. You know, each one of those otter facilities had to be built from scratch. Even the leases had to be obtained. Although the plan said there was one, by the way. The plan said there was one in Valdez.

I do not want to prolong this but one of the things we are looking for now from your people—the people in your Center and others—is help on designing some equipment that hopefully would be financed with this fund we want to create so that we will have these things standing by that could be airlifted in and we do not bring just communications for people, but we bring the washing facilities and everything else to deal with birds and mammals that might be affected by a spill.

This could happen off the California coast. There are otters down there, too and we ought to have that capability. We do not have that capability in our American system. We do not have any prefabbed facilities for taking care of the wildlife and the birds that might be affected by such a tragedy. I think that in itself is a tragedy and I hope you can give us some help along that line.

Dr. OTT. Mr. Chairman, may I read two sentences out of a letter, because I am also very concerned not only about the health of the wildlife but also about the human health factor.

I have a letter from the former Alaska Medical Director for Standard Alaska, British Petroleum. His name is Robert Rigg, and he said it is a known fact that neurological changes, brain damage, skin disorders including cancer, liver and kidney damage, cancer to other organ systems and other medical complications, secondary exposure to working unprotected or adequately protected, can and will occur to workers exposed to crude oil and other petrochemical byproducts.

While short-term complaints—i.e., skin irritation, nausea, dizziness, pulmonary symptoms, et cetera—may be the initial signs of exposure and toxicity, the more serious long-term effects must be prevented and I have personally spoken to workers who have gone into the hospital for rashes, nausea, headaches and darkened urine, which is a sign of the body's working on toxic chemicals.

Ms. O'LEARY. Mr. Chairman, if I may there is one more thing I would like to add to Dr. Ott's last couple of sentences here. That is, that when we talk about getting more people out there and making the beach cleanup go faster, they can barely take care of the people they have got out there now. Like I say, they are taking care of them improperly, so this human risk I fear would be greatly increasing and we are very concerned about it. We have got some sick people already and it is not being adequately addressed.

Senator KERRY. Thank you. That is an important additional concern with all the others and obviously one that Admiral Yost and Exxon and those in charge are going to try to deal with and we will certainly try to keep the pressure on to make them do so.

I, again, apologize. We are really running against the wire here and we must get this next hearing going on time. The record will remain open. Each of your testimonies will appear in full as if read and we will, almost to a certainty, submit some questions to you to be answered in writing. I am very, very much appreciative of your testimony. Thank you.

If the members of the last panel would come forward, we have the Under Secretary of Commerce for Oceans and Atmosphere, the Honorable William Evans, and Steve Robinson, Deputy Director of Fish & Wildlife Service and finally Don Colinsworth. What I am going to do, and I hope those who come from Washington will not view this as an affront. I regret not having done this earlier, Mr. Robinson and Mr. Secretary, but I would like to ask, and bear with us, if you would be willing to come back since you are here in Washington.

We will put you right up front. You can come in and out. We will get your testimony that way, because we would like to talk to you on the record and get the questions answered if we can and if you are willing. If you will tolerate—if you will indulge the Committee here—I would like to hear from Commissioner Collinsworth who has flown in from Alaska to be here with us and do justice to that effort in his behalf.

Mr. EVANS. Mr. Chairman, I will do everything I can to shift my schedule around to come back whenever it is convenient for the Committee.

Senator KERRY. I thank you, Mr. Secretary, very much.

Mr. ROBINSON. At your pleasure, Mr. Chairman.

Senator KERRY. We wanted to hear you, so we kept hoping we would fit it in and then there were extra questions. That is why we would not let you go earlier. I hope you will forgive me personally for that.

Mr. EVANS. Mr. Chairman, I would like to leave for the record along with the testimony that I have submitted a copy of the organizational response plan for the release of oil and hazardous substances which NOAA follows. That might be an interesting document for the Committee to have.

Senator KERRY. I appreciate that and without objection it will appear in the record and we will be back to you very, very shortly, I assure you.

Senator STEVENS. I thank you gentlemen, too and I know we will see more of you.

STATEMENT OF DON COLLINSWORTH, COMMISSIONER, ALASKA STATE DEPARTMENT OF FISH AND GAME

Mr. COLLINSWORTH. Thank you, Mr. Chairman, Senator Stevens. I thank my colleagues on this panel for the consideration and the consideration of the chair allowing me the opportunity to make my remarks.

Mr. Chairman, my name is Don Collinsworth and I am the Commissioner of the Alaska Department of Fish and Game and the Governor's designee as trustee for national resources under the provisions of CERCLA.

The State of Alaska appreciates the opportunity to present to you today our views on the tanker vessel *Exxon Valdez* oil spill and its effects on the natural resources of Prince William Sound and coastal areas now stretching more than 500 miles.

Your focus this morning, Mr. Chairman has largely been on the spill itself and its cleanup. There is another phase of this activity which I am addressing today and that is the assessment of damages and injuries to the natural resources. The scope of natural resources that we are looking at encompasses a holistic view of natural resources. Under the Clean Water Act and CERCLA natural resources include the land, water, air, groundwater, drinking water, fish, wildlife and the biota.

You have asked me to focus on one element in the array of critical issues the state faces in the wake of the largest environmental disaster in North American history—how we are faring in our efforts to assess the injury to the natural resources affected by the Exxon Valdez oil spill.

My remarks on the resource assessment will cover three key points. First, the present status of the resource assessment. Second, problems encountered in establishing a structure by which that assessment could be undertaken, and third, recommendations for changes to make this more workable, including options for funding mechanisms.

Before talking about the natural resource damage assessment, though, let me point out that as we speak today oil that gushed from the *Exxon Valdez* seven weeks ago continues to spread westward into the Gulf of Alaska and foul our shores.

The effects of the grounding on Bligh Reef have reached beyond Prince William Sound to the lower Kenai peninsula, the Alaska peninsula, the Kodiak Islands and other areas in the state. The area affected by the spill provides critical habitat for a multitude of fish and wildlife species, supports numerous multi million dollar fisheries, provides essential resources for subsistence users and supports a wide variety of recreational activities.

Since March 24th, I have had to tell the people of Cordova there would be no herring fishery this season. The spill has forced the closure of shrimp, sable fish and dungeness crab fisheries in both Prince William Sound and Lower Cook Inlet.

Biologists, fishermen, seafood inspectors and oil spill data analysts are working around the clock to be able to make on-the-spot decisions about whether we can salvage this season's salmon fishery.

Meanwhile, state officials continue to fight alongside fishermen and volunteers in coastal communities to do what we can to protect the most sensitive fish and wildlife resource areas from further degradation by oily mousse and tar balls, pollution that now spans the distance roughly equivalent to the stretch of coast from Maine to Virginia.

The spill has covered more than 26,000 square miles of ocean surface. Nearly 400 miles of shoreline and intertidal habitat has been oiled in Prince William Sound alone.

Looking beyond immediate protective tasks, the state's effort to begin the impact assessment without delay has been one source of encouragement for local communities dependent upon marine and coastal resources. The importance of the natural resource assessment lies in its role in eventually compensating these people and providing them a mechanism for fair and expeditious recovery.

The state's goals in conducting the assessment are threefold. One, to understand the extent of the injury to our resources. Two, to assess that impact in a way that allows us to recover damages from the responsible parties, and three, to determine how to restore the resources and make the state once again whole.

At this stage the state and the three Federal agencies have set up a management team to carry out the assessment work. A legal and budget team are also being established. Preassessment work is on-going, as is collection of time-critical information and samples. The state and Federal scientists and resource managers in the field are working together to accomplish this preassessment work. I will be pleased to answer your questions on the status of those efforts if we have time.

However, we have encountered several problems with the assessment process as set out in Federal regulations and it is these I would like to bring to your attention. Two most troublesome areas are the economic valuation methodology prescribed and the lack of organizational structure for managing the actual natural resource impact assessment. The state, working with Federal agencies, initiated the impact assessment work following the procedural framework of the existing CERCLA regulations.

In a catastrophe of this size, many sectors of the economy are adversely affected. As we continue to develop assessment plans we find that the regulations do not lend themselves to asserting the full extent of the impact we are experiencing.

In some respects it appears that liability of the responsible parties may be dramatically limited under the terms of the rules. We do not believe this was the intent either of the Clean Water Act, the basic oil pollution response laws of the United States, or the comprehensive Environmental Response, Compensation and Liability Act, the law of which sets forth the natural resource trusteeship process.

The state also is encountering difficulty with the economic evaluation methodology prescribed by the regulations. We feel that the process is too restrictive and does not allow for consideration of the broad variety of public uses of natural resources encountered in Alaska.

First, the regulations require a market valuation approach and second they mandate that damages be assessed at the lesser of restoration costs or market value. An example of the kind of problem we are facing with this approach is, for example, take the case of a bottom dwelling organism like a tube worm. Although they fill an important niche in the food chain, a tube worm does not have a market value. Its value is zero. On the other hand, the cost of restoring the benthic ecosystem complete with tube worms from a state where it is enfused with oil toxins to its prespill productivity, can be enormous.

We are also concerned about leadership and coordination in the assessment. The state wants, above all else, to stabilize the economic situation in the resource-dependent coastal communities affected by the spill as quickly as possible. It is in our interest that the assessment work be carried out thoroughly and expeditiously. Because of the urgency we feel to get on with this work and for reasons which I will outline briefly, we believe the assessment process must have a designated leader.

By last account there were at least 12 separate agencies which have some role in the damage assessment. Expecting a dozen agencies to work in a coordinated manner without any leadership is not only unrealistic, it is dangerous.

We need to avoid duplication and to fulfill the regulatory requirement that assessment work be done at a reasonable cost and designed to achieve a result. As such, someone must take charge.

For all practical purposes, the state has taken the lead. State scientists initiated collection of samples and other assessment information that would have been lost otherwise.

The state called the first meeting of the designated trustee representatives in Alaska. We will continue to call meetings and initiate coordination efforts because we believe somebody has to.

We also will work with the other affected agencies to strive for a coordinated approach in the implementation of the actual assessment work.

The final area of concern is the lack of an identified fund to pay for all of the work that has been identified and approved thus far. The oil spill covers thousands of square miles along a rugged coastline in one of the nation's most remote areas. The cost of logistics alone are staggering. The State of Alaska has requested and will receive from the state legislature funding to begin the damage assessment projects for which we are responsible.

While these funds are being appropriated on the assumption that eventually we will be reimbursed, the state will not be able to advance all of the funds necessary to carry out the studies on a disaster of this size.

Exxon's payment of $15 million towards the cost of damage assessment will help but will not cover near the anticipated cost. And what of the instances where a state or federal government trustee cannot rely on a down payment of the type Exxon was willing to make?

A much more satisfactory situation would be a federal fund to provide for damage assessment costs. Such a fund could be drawn upon by natural resource trustees as needed and reimbursed upon completion of the assessment and recovery.

In conclusion, while we are initially following the CERCLA regulations promulgated by the Department of Interior, we are not certain that these rules set out the most prudent way to proceed. While we hope sincerely that no other states have to face an incident like the *Exxon Valdez* spill, it is likely they will have to face cleanup and damage assessments in the wake of spills of other sorts covered by the regulations.

To save our resource trustees a struggle we have had with these regulations, we would urge the Congress to reexamine this process with an eye toward making it more workable.

The State of Alaska is firmly committed to determining the actual level of damage to its natural resources and receiving compensation at that level. Nothing else is acceptable.

If the CERCLA regulations do not provide that type of relief, then the state will have to explore other options. Thank you, Mr. Chairman, for the opportunity to testify.

Senator KERRY. Well, Commissioner, thank you very much for taking the time. And you referenced the legislation that I am putting in that I did not really talk about very much in my opening comments. But one of the pieces is this damage assessment process and the responsibility we have to assist in making it and to set up some benchmarks by which we are going to judge where we are going.

I do not envy you. You have got a very, very tough job now, and I do want to ask you a few questions for the record, and we will submit them to you because I want you to describe a little bit more, particularity with respect to your department's efforts thus far.

Let me defer to my colleague from Alaska and see if he wants to ask any questions at this point since we are just about—in fact, we are now running into the next hearing.

Senator STEVENS. You are very kind, and I thank you for your courtesy in allowing Commissioner Collinsworth to go ahead and testify today so that he can return home. He has a lot of problems to deal with there.

One of the bills that I put in deals similarly with that concept of the type of planning under EPA's jurisdiction, but following the trustee process. So I think we are all on about the same wavelength, and we have just got to find a way to get people the money to do the job. That is the main thing.

I thank you very much for coming down. I thank you for your help and that of your very able people working with you, too.

Mr. COLLINSWORTH. Thank you. I know we are out of time. Just one comment about Admiral Yost's comments about the hatcheries and the out migrating fish and no toxic materials in the water and everything is going to be great in seven years when the fish come back. He said seven years. I did not.

I am not a maritime expert, and I sense from those comments that the Admiral is not a fisheries ecologist. Because we do have problems the extent of which we have not fully analyzed.

Senator STEVENS. We do not know the scope of them yet.

Senator KERRY. I think both Senator Stevens and I are concerned that we set up a process by which we can guarantee that we do understand the scope of them and then hopefully can take some appropriate action.

This has been a long hearing, obviously. That stands for itself. But I think also it has been a very important one. I think we have learned some things today that we did not know. We have been able to pull together a consensus as to where we are not making progress as well as conceivably as to where we need to go.

And I think the task in front of Exxon is clearer as a consequence of today's meeting. There are obviously some questions that are not resolved by virtue of this hearing. I think Exxon, hopefully, will take note of the fact that this committee and those of us here are deadly serious about watching this closely and trying to establish some accountability.

Sometimes Congress has a bad reputation for being around, you know, at the early stages of these things and then as public interest sort of wanes because it is not a crisis on the news each night, so does the interest. And we are determined not to let that happen, which is why we will have a mid-July reassessment process, and we are going to try to listen to you closely to get a sense from you about what you can tell us at that time about the impacts and what you may know.

So, without further ado, the hearing stands adjourned.

[Whereupon, at 1:35 p.m., the committee adjourned, subject to the call of the chair.]

[The following information was subsequently received for the record:]

STATE OF ALASKA

STEVE COWPER, GOVERNOR

DEPARTMENT OF FISH AND GAME
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1989 JUN 30 PM 3:19

June 26, 1989

The Honorable Ernest F. Hollings
Chairman, Senate Commerce, Science,
and Transportation Committee
Washington, DC 20510-6125

Dear Senator Hollings:

Following are answers to your questions regarding my May 10 testimony to the Committee on Commerce, Science, and Transportation on the Exxon Valdez oil spill:

1. The Alaska Department of Fish and Game (ADF&G) is participating in both oil spill response activities and assessing the environmental impacts of the Exxon Valdez oil spill. Our role in spill response involves providing the state and federal on-scene coordinators with information on fish and wildlife resources and harvest activities in the spill area, and participating in operational and management decisions such as the deployment of booms and recovery equipment. ADF&G staff are also involved in the shoreline cleanup process, including prioritizing areas for treatment, evaluating shoreline cleanup techniques, and establishing an oversight and reporting system for assessing the adequacy of shoreline cleanup efforts.

   In conjunction with these duties, department staff are participating in the oil spill impact assessment to determine the effects of the spill on fish and wildlife species and habitats and users of these resources. Additional information on this aspect of our involvement in the spill is provided below in Item 3.

2. As of May 30, the department had spent approximately $940,500 on oil spill response activities and about $916,400 on the impact assessment.

3. Because of the magnitude of the Exxon Valdez oil spill, it is necessary to conduct many inter-related impact studies to adequately assess the environmental effects of the spill. ADF&G is participating in studies in a wide variety of disciplines, including coastal habitats, fisheries, birds, marine and terrestrial mammals, and economic uses of these resources. Within each of these categories there are numerous specific impact studies. Consistent with the State of Alaska's trusteeship responsibilities, ADF&G is taking a lead role in studies related to fisheries and terrestrial mammals. However, we are a major participant in nearly every aspect of the impact assessment program. The exact number and focus of all the studies that will need to be conducted are still in the formative stages, but I anticipate that the state and federal agencies will collectively implement over 50 specific studies.

Once again, thank you for the opportunity to present testimony to the Committee on Commerce, Science, and Transportation. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Don W. Collinsworth
Commissioner

EXXON OIL SPILL

WEDNESDAY, MAY 10, 1989

U.S. Senate,
Committee on Commerce, Science, and Transportation,
Subcommittee on Merchant Marine,
Washington, DC.

The subcommittee met at 1:40 p.m. in room SR-253, Russell Senate Office Building, Hon. John B. Breaux (chairman of the subcommittee) presiding.

OPENING STATEMENT BY SENATOR BREAUX

Senator **Breaux**. The Subcommittee on Merchant Marine will please come to order.

This afternoon we are conducting the first Merchant Marine Subcommittee hearing related to the oil transportation and the safety aspects of that effort.

Many issues have been brought to light in the aftermath of the *Exxon Valdez* accident. It now is very clear that many factors combined to cause the oil spill and as in tragedies of this nature, it is very easy for people to Monday morning quarterback on what should have or could have been done and what happened and the fact that it would have been totally avoidable had different steps been taken.

The purpose of this afternoon's hearing is not to engage in that sort of exercise. The National Transportation Safety Board is in the midst of their investigation. Formal hearings are scheduled to begin shortly, and we are all very hopeful that the report that the NTSB produces will answer finally how the accident happened and what steps might be taken to prevent an occurrence in the future.

The Valdez accident has brought into focus a number of issues that relate to oil transportation safety in general. It is an unfortunate fact that the United States imports more than half of its oil from other countries. This is not going to change in the near future. Most of this oil comes into the United States on oil tankers.

Thus, the potential for another accident as large as the *Exxon Valdez* is great, and it is appropriate in my view that we make a comprehensive assessment of the oil transportation system in this country. We should try and determine what changes are needed in law or in regulations to reduce the possibility and the risk of another accident.

We have indeed been very fortunate in this country to avoid serious oil spills. When one stops to consider the thousands of ships that daily enter our waters filled with crude oil or other hazardous cargo from all parts of the world, the fact that the accidents rarely occur is truly amazing. In Valdez, for example, there were more than 8,000 passages without an incident of this nature.

This accident, however, is cause for great concern for we have all seen the terrible effects that this spill has had on the national treasure that is Alaska. What we have learned to date indicates that somehow a person who was not able to drive a car on the Long Island Expressway was, however, able to command a supertanker. That is simply not right, and I do not think the American people understand it, nor do I.

Valdez is not a particularly busy port by any measure. Less than 10 ships per day go in and out of there. Valdez has a vessel traffic service system, a VTS, which is mandatory which provides some radar coverage during the passage between the docks and the open ocean.

And New Orleans, Louisiana, by comparison, is one of the busiest ports in the United States of America with much more traffic than Valdez each day. New Orleans does not have a VTS in operation. It was discontinued during the Coast Guard budget cuts several years ago.

As the Senator from Louisiana, I must ask the question as to whether the people of our state are protected fully from accidents of this type and whether we have been avoiding the worst by luck alone.

Finally, I am not certain that we are doing all we can to design the ships and to modify shipping operations to protect fully against the damage from collisions and grounding and our colleague, Brock Adams, who is our first witness has some ideas in that regard, as do others.

I am not altogether certain that enough research and development is being done on methods and technology to clean up the spills after they occur.

One thing that has emerged from the Valdez experience is that we as a nation are not prepared to counter a spill of this magnitude, and we can assume that it will happen again.

Since 1976 there have been 10 major oil transportation or production accidents in the United States which have spilled almost 50 million gallons of oil. It can happen again, and we must take steps now to insure that the damage will be limited, containment effective, and the cleanup thorough.

I look forward to our hearings this afternoon. We have a number of distinguished witnesses which we will be welcoming, but before that I would like to welcome our distinguished ranking member of our subcommittee, the Senator from Mississippi, Senator Lott.

Senator **Lott**. Thank you, Mr. Chairman. I have no opening statement at this time. I think you have covered it quite well. I am very anxious to hear the additional testimony this afternoon following up on what we had this morning, and I look forward to hearing from the gentleman from Washington state.

Thank you, Mr. Chairman.

Senator **Breaux**. Any comments from our other colleagues?

OPENING STATEMENT BY SENATOR GORTON

Senator **Gorton**. Mr. Chairman, thank you. As you know, I am not a member of this subcommittee, but I have a considerable interest in this subject, and I wanted to appear here, at least at the outset, to commend Senator Adams, a former member of this committee, for what I think is an extremely thoughtful approach to some of the problems which have been raised to a great deal higher degree of prominence and urgency by the spill of the *Exxon Valdez*. And I am convinced that at least a number of those suggestions will end up being incorporated in anything which the Commerce Committee does.

Senator Stevens also has proposed a bill with respect to Prince William Sound which I think has a great deal of merit with respect to Alaska, and I believe that some of the provisions in that proposal are equally applicable to us in Puget Sound. And, as you know, Mr. Chairman, I have some suggestions which I made with a little bit of heat this morning while the people from Exxon themselves were here, and we are in the process of attempting to put them in bill form and hope that they will be considered at the same time.

But primarily I am here because I want to lend my support to many of the suggestions which Senator Adams is presenting in his bill.

Senator **Breaux**. Very good.

Well, we are delighted to have our former colleague of this committee. We are dealing with transportation problems with the question of transporting safely huge amounts of crude oil into this country. We are delighted to have the former Secretary of Transportation, Brock Adams.

I also have a statement that Senator Hallings would like to have included in the record.

[The statement follows:]

Opening Statement by the Chairman

So, clearly the Valdez may be the biggest in this country, but it isn't alone. I think the hearing today will give us in the Senate the information we need to put together a legislative package which addresses some of the more serious problems that the Valdez accident has exposed. The Coast Guard needs the authority and the ability to deny or revoke supertanker licenses to drunk drivers. I think there ought to be more than one person on board a ship that is legally authorized to pilot a ship in the event that the master is "incapacitated". Finally, we need to make some changes in the way that the Coast Guard monitors ship traffic, to make sure that they know where ships are at all times, and can in some way protect ship captains from their own stupidity or incompetence.

We have a good list of witnesses, I note that our former colleague on this Committee, Senator Adams, is waiting to testify and that he will be followed by Commandant Yost. After that we'll have a number of experts from State pilots to the tanker industry and maritime labor. I know that this will be a good hearing and look forward to the testimony.

STATEMENT OF HON. BROCK ADAMS, U.S. SENATOR FROM WASHINGTON

Senator **Adams**. Thank you very much, Mr. Chairman, and thank you, Senator Gorton, for those kind remarks and we will work very closely together on this. And I want to compliment Senator Stevens on his bill. I think we are all moving in the same direction.

Yes, I do have some ideas on this issue and some bitter experiences and some good ones. I have a little surprise for you in terms of another colleague of ours who is not only supporting the legislation I introduced, but who has asked me to put in some testimony. Senator Magnuson, the former chairman of this committee, worked all night to draft a statement, and I will put it in in a moment and quote from portions of it, because the history of this issue is as important as what we are about to do.

I am very pleased, Mr. Chairman, to be back with members of the Commerce Committee. I have always enjoyed the Commerce Committee both on the House and on the Senate side. It is one of the Senate's great committees, and I appreciate the opportunity that you are giving me today to testify about the Puget Sound Tanker Safety Bill of 1989 which I have introduced.

The *Exxon Valdez* oil spill has shaken us out of a complacency, that I think we have had for many years. And Senator Gorton and I share that same feeling.

We live on beautiful waters, and for many years things have gone well, and I think we rely too much on the assurance of the oil industry and of the Coast Guard that our tanker fleet was safe, that spills could be prevented, and that they could be cleaned up without significant damage to the environment. We have all relied on that, and we should have known better.

Mr. Chairman, 15 years ago we were paying a great deal of attention to oil tanker safety. In 1975 the senior Senator from the state of Washington, the then-Chairman of this committee and a good friend, Warren Magnuson, introduced legislation to require double bottoms on all tankers engaged in trade with U.S. ports.

In 1977 as Secretary of Transportation for President Carter, I directed the Coast Guard to negotiate a double bottom requirement with the International Maritime Organization.

Mr. Chairman, unfortunately the international conference rejected the U.S. approach. I think it should always be remembered that the U.S. did push double bottoms internationally, we did pass it at the subcommittee, and we did pass it at the conference level. It has not been adopted as a worldwide standard, but that was our position over 15 years ago.

Senator Magnuson's legislation was never enacted. Mr. Chairman, I am grateful for these hearings and for those that were held this morning because the tanker safety issue after that period of time in the late seventies and early eighties seems to have fallen off the edge of the earth. And it is time we finish a job we left undone.

Mr. Chairman, I am very honored at this time to submit to you testimony from Senator Magnuson in support of the legislation I have introduced, S. 839, and I would, Mr. Chairman, that it might be included in the record in full at the conclusion of my testimony.

Senator **Breaux**. Without objection, it will be done.

Senator **Adams**. Mr. Chairman, I will quote from one or two passages of that which I think you will find very interesting with regard to what was promised at the time of the construction of the Alaska pipeline.

Now, in Washington state, just as the Chairman mentioned his concerns about New Orleans, we are particularly concerned about preventing oil spills in Puget Sound. Constant oil traffic in the Sound poses an immediate threat to an irreplaceable marine resource.

As Secretary of Transportation I issued regulations in 1978 that banned supertankers from Puget Sound. They still are banned. That is not enough, however. An oil spill in Puget Sound even one third the size of the *Exxon Valdez* would be a devastating blow to the entire Pacific Northwest.

In light of the Prince William Sound oil spill, we now have to act on a new assumption: that any oil tanker can run into trouble.

Mr. Chairman, I hate to have to say this, but just two weeks ago a second fully loaded Exxon tanker—the *Exxon Philadelphia*, lost power off Cape Flattery in Washington State and drifted helplessly for seven hours.

Mr. Chairman, this had a single boiler, single screw tanker. For years we tried to get double boilers with double screws and were unsuccessful. But that boiler went out and when it went out, the ship lost all power. The only thing that saved us was that calm seas prevented the ship from running aground, and we had a prevailing wind.

That is why I immediately introduced the Puget Sound tanker safety bill of 1989. This legislation, Mr. Chairman, has three main sections.

First, the bill would require double hulls on all new tankers operating in U.S. waters. All tankers over 20,000 dead weight tons that are constructed after the date of enactment would have to be built with both double bottoms and with double sides. At this point, Mr. Chairman, let me quote from a very pertinent part of Senator Magnuson's testimony. And this goes clear back to 1977. "The oil industry recognizes the importance of double hulls. When these corporations were seeking federal permits for the trans-Alaska pipeline from the Nixon administration, they promised that all tankers transporting Alaskan oil would have double hulls. Unfortunately they reneged on that assurance. Now it is time to require the oil industry to live up to their promise."

Mr. Chairman, studies by the Office of Technology Assessment and the National Transportation Safety Board show that double hulls have the following advantages: They provide protection against grounding and collisions because in most accidents only the outer shell would be penetrated and no oil at all would spill.

Mr. Chairman, double hulls, double bottoms have often been criticized by the oil industry and I assume in testimony you will still hear it, but this is not a new technology or not something unknown.

Mr. Chairman, I would like to enter into the record, if you would, please, the U.S. flag tankers built since 1970 with double bottoms. There are 42 of them here. They are listed with all the dates, they are listed with the tonnage.

Mr. Chairman, nothing is perfect in this world, and we do not assume that. What happens is in case the inner hull is ruptured, double hulls provide the added benefit of containing some of the oil spilled between the hulls and slowing the flow of oil. Double hulls also prevent additional structural support in cases of catastrophic events such as severe explosions and thus may help save the ship when these happen.

It should be noted that this is not an untested proposal or on the drawing board of some naval architect. They are currently required, Mr. Chairman, for tankers carrying liquefied natural gas and for certain hazardous chemicals. And, as I have pointed out in the list I have placed before the committee, almost half the U.S. tanker fleet operating today are equipped with double bottoms.

Before describing the other sections of the bill, I would like to answer the first question that I am sure would be asked about double hulls. "Would it have prevented the *Exxon Valdez* accident?" The answer is probably not. Initial examination of the ship, however, suggests that many of the tanks that were ruptured were penetrated less than the height of the double bottom. Thus, if the *Exxon Valdez* had been built with a double bottom, perhaps half as much oil would have been spilled.

Mr. Chairman, I fought this issue 10 years ago, and there was great opposition to it. That opposition is still present, and I am sure you will hear from other witnesses, but my resolve on that fight is just as strong now as it was 10 years ago.

It is important to note that double hulls is not the only measure that we can use to mitigate damage done by oil spills. One proposal is to require oil vessels to have equipment on board to respond to a spill and make immediate repairs to the ship if possible. Each ship should have an individualized vessel spill containment plan spelling out the procedures to be used in case of an accident.

The second section of my bill would require that vessels in Puget Sound to have spill containment plans, and would direct the Coast Guard to determine what equipment would be necessary to carry them out.

The third section of the bill would require owners and operators of oil vessels and oil facilities in Puget Sound to prepare oil spill contingency plans. I think it is simply irresponsible for companies to be transporting oil without contingency plans. Yet, the Coast Guard has told me that there is no federal provision requiring companies to be prepared for an accident should one occur.

Under this legislation contingency plans would have to be approved by the Coast Guard which could not approve a plan unless the company had sufficient equipment available to handle the maximum probable spill. These plans would have to be publicly available and regular practice drills would be required.

I also believe, Mr. Chairman, that the Coast Guard should immediately take charge of the response to a spill of the size of the *Exxon Valdez*. And then hand it off to the company responsible for the spill only if that company can demonstrate that it will handle it properly. That is not in this bill, but it is in Senator Mitchell's bill, and I am a cosponsor of the bill introduced by Senator Mitchell that would federalize oil spill cleanup in this way.

Companies that profit from the production and transportation of oil, just as in any other business, have a responsibility of ensuring that their activities do not endanger our precious maritime environments. For too long, Mr. Chairman, we have relied on industry assurances that oil spills can be contained. It has taken a disaster the magnitude of the *Exxon Valdez* spill to show how empty those promises have been.

The federal government must step in and require oil companies to build better tankers, and plan for coordinated cleanup response when the spills occur.

I look forward to working with this committee, Mr. Chairman, toward the passage of this legislation.

This is a great tragedy, and I have expressed my deep regrets to Senator Stevens for what happened in Prince William Sound.

Those of us from the Northwest, Mr. Chairman, all of us have sailed these waters. I spent five years in the Alaskan waters and the communities of Seldova, Cordova, all up and down the coast.

For that coast to suffer this way is an enormous tragedy, and I hope we can avoid it in the future. I think, Mr. Chairman, that this committee has the key. It has jurisdiction over vessels, it has jurisdiction over the Coast Guard, it has the ability to require these kinds of steps, and I hope that the other committees of the Senate that are involved can establish an oil spill fund. And I would just say as an aside that I have talked with the Coast Guard people about this at great length, Mr. Chairman, and I was informed that that fund was so low in Prince William Sound that they had to borrow money in order to carry out some of their first activities because we have not established a sufficient size federal oil spill fund.

I thank you, Mr. Chairman.

[The material referred to follows:]

STATEMENT OF SENATOR WARREN G. MAGNUSON

Mr. Chairman,

I want to enthusiastically support the Puget Sound Tanker Safety Act of 1989 (Senate Bill 839). This bill contains a number of significant safeguards that will improve the construction and regulation of oil tankers, and ensure that appropriate plans are in place if there is an oil spill.

This is an extremely important piece of legislation. Puget Sound is one of the most beautiful places in the world. Its contribution to Washington's economy, environment and special quality of life can't begin to be calculated.

As you know, I have long been interested in oil tanker safety and the protection of Puget Sound. During the 25 years I chaired the United States Senate Commerce Committee, I saw the quantity of oil transported through Washington's waters and the size of oil tankers increase dramatically. Congress has taken a number of steps to improve the design and operation of oil tankers. I am very proud of the requirements for segregated ballast on tankers, limits on the size of tankers in Puget Sound, and the development of the vessel traffic control center that monitors the movement of all ships on Washington inland waters. In 1977, we passed a law banning the construction of an oil superport inside Puget Sound.

The state of Washington has also been active. Actions by the state, including requirements concerning pilots and tug efforts escorts have improved the safety of oil transportation.

All these actions demonstrate a clear recognition that government has a responsibility to protect our valuable waters.

Two recent events demonstrate that we must redouble our efforts. The Exxon Valdez disaster showed what can happen when the oil industry's management gets sloppy and the Coast Guard reduces its vigilance. The Exxon Valdez spilled over 11 million gallons of oil into Prince William Sound. The oil spill covered an area the size of Rhode Island. It will take more than a decade for some of the damaged areas to recover. Closer to home, the Exxon Philadelphia lost power off the Washington coast. We were lucky. If the winds had been blowing the other way, we could have had a second disaster.

These events remind us that large oil tankers -- tankers carrying four times more oil than the amount spilled in Alaska -- regularly thread their way through the narrow Rosario Straits to Washington's oil refineries. We must strictly enforce existing safety requirements and we must look for other measures to reduce the chance of an oil spill.

That is why the Puget Sound Tanker Safety Act of 1989 is so important. It adds significant safeguards that build on and are consistent with previous actions by the Congress.

Section 4 of S. 839 requires new tankers to be built with double hulls. This technology would have prevented the spill caused by the grounding of the Exxon Valdez.

The oil industry recognizes the importance of double hulls. When these corporations were seeking federal permits for the Trans Alaska Pipeline from the Nixon Administration, they promised that all the tankers transporting Alaskan oil would have double hulls. Unfortunately, they reneged on that assurance. Now it's time to require the oil industry to live up to their promise.

S. 839 also includes provisions to improve the safety of oil carrying barges. The recent spill near Anacortes reminds us of the increasing use of these barges.

The legislation also calls for spill prevention and counter measure plans, regulations governing safety and clean up equipment and an inspection and maintenance program. These provisions will reduce the chance of an oil spill.

The legislation would require comprehensive oil spill contingency plans and practice drills. This will mean that adequate, workable plans will be in place in the event of an accident. I particularly like the requirement that the plans, and the results of the drills will be publicized. Given the strong public interest in this issue, the public awareness provisions, along with the penalties prescribed in Section 9, add real muscle to the bill.

I recently received a touching letter from some students at Cascadia Middle School. They wanted to thank me for my efforts to protect Puget Sound. They said that they were writing for themselves, and for "their children in the future." What I have done is history. I am interested in the future. I want succeeding generations -- like the future children of those students -- to be able to experience the natural beauty and diverse sea life of Puget Sound.

I want to thank Senator Adams for his leadership on this important issue. The Puget Sound Tanker Safety Act of 1989 will help protect Puget Sound. I wholeheartedly support this bill and hope the Congress moves quickly to pass it.

Warren G. Magnuson

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FACT SHEET ON DOUBLE HULLS

Definitions

Double Bottom -- A ship constructed with two separate and continuous watertight plating structures along the ship's bottom. Double bottoms generally enclose a compartmented space of up to 10 feet in height, and are used as segregated ballast tanks.

Double Hull -- A ship with both a double bottom and double sides.

Segregated Ballast -- Separate tanks for carrying ballast water only, thus eliminating the need for carrying ballast in cargo oil tanks. Tankers must-carry about one third of their capacity in ballast on a return (empty) leg of a voyage. Ballast tanks are empty when the tanker is carrying oil.

Background

1. In January, 1975, Senator Magnuson introduced a bill to require double bottoms on all U.S. tankers over 20,000 DWT engaged in trade with U.S. ports, constructed after June, 1975.

2. In 1976, President Carter instructed the Coast Guard to develop new regulations that would require, among other things, double bottoms on all new tankers over 20,000 DWT.

3. The President also recommended that a special international conference be convened to consider these new measures. The Tanker Safety and Pollution Prevention Conference was convened under the auspices of the International Maritime Organization in February, 1978.

4. The Conference rejected the U.S. proposal, adopting instead a requirement that all tankers over 20,000 DWT have protectively located segregated ballast tanks covering 45% (for tankers up to 200,000 DWT) or 30% (for tankers of 200,000 DWT and above) of their cargo area.

5. The Port and Tanker Safety Act of 1978 mandated the international standards and the Coast Guard issued final rules implementing the law in 1979. Thus, segregated ballast tanks were required as a substitute for double bottoms.

Current Use of Double Bottoms/Hulls

1. According to OTA, double bottoms are required for tankers carrying liquified flammable gases and certain other hazardous chemicals.

2. Double bottoms and hulls are frequently fitted on general cargo ships and passenger ships. There are also several oil

tankers operating in the international fleet that are fitted with double bottoms.

Advantages of Double Hulls

1. Accident prevention. A double bottom will provide protection against accidental oil spills from groundings. Double sides provide similar protection against collisions. In accidents where there is limited penetration, only the outer shell of the tanker would be damaged.

2. Containment. In cases where the inner hull is is ruptured, double hulls provide the added benefit of containing some of the oil spilled between the inner and outer hull.

3. Reduced outflow. Double hulls also slow the outflow of oil from accidents where the inner hull is damaged, thus providing more time for cleanup response.

4. Structural strength. There is evidence that double hulls would provide additional survivability in cases of catastrophic events, such as severe explosions, by providing additional structural support.

5. Operational efficiency. With double hulls, structural supports such as struts and metal girders can be placed between the inner and outer hulls. In single hull tankers, these structures must be placed inside the cargo tanks. Therefore, the tanks in double hull tankers have smoother surfaces and can be unloaded more easily and efficiently.

Criticism of Double Hulls

1. "A double hull would not have prevented the Exxon Valdez accident." While this may be true, preliminary analysis suggests that many of the tanks that were ruptured were penetrated less than the height of a double bottom. Thus, if there was a double bottom, much less oil would have spilled. Also, the Exxon Valdez was travelling at a speed much greater than the speeds normal for protected waters such as bays, harbors, and sounds. Most groundings and collisions occur in these waters. Several studies indicate that a significant number of groundings and collisions would be prevented with double hulls.

2. "If oil gets between the hulls, it could create petroleum fumes which could lead to explosions." There has never been an explosion resulting from a ruptured hull in any of the currently operating double hull tankers. The risk of this happening is the same as the risk of an explosion from a ruptured segregated ballast tank in a single hull tanker.

3. "In an accident, a double hull tanker would lose buoyancy from seawater filling the space between the inner and outer hull,

and the tanker would become firmer aground." First, loss of buoyancy would also be experienced by single hull tankers, if segregated ballast tanks are ruptured. Second, there are actually advantages in having tankers more firmly aground, rather than having damaged tankers subject to swing and move with tides or heavy seas. According to OTA, "it is more advantageous to keep the ship as firmly aground as possible and then give her sufficient buoyancy and proper trim at the selected moment for refloating." When the Exxon Valdez grounded, the Coast Guard warned the captain of the ship not to try and break the ship loose from the rocks, as the ship might then have sunk, or punctured even more tanks.

4. "Segregated ballast tanks provide the same protection as double hulls." Segregated ballast tanks in single hull tankers only cover a maximum of 45% of the cargo area; double hulls would provide protection against collisions and groundings for all of the cargo area.

5. "Requiring new tankers to have double hulls will be ineffectual because there are no new tankers being built." Had the Magnuson proposal been adopted 15 years ago, a significant number of today's tankers would have double bottoms. Although the Adam's bill would not effect immediate changes in the tanker fleet, over time it will result in a safer fleet.

6. "A U.S. statute requiring double hulls would conflict with international law." The international MARPOL conventions on ship pollution are not "exclusive" and allow coastal states to enact additional regulations. In our tanker safety and environmental laws, the United States retains its authority to adopt standards more stringent than required by international law.

Costs of Double Hulls

1. The OTA compared the actual costs of building single hull tankers with the cost of building double bottom and double hull tankers. They found that double bottom and double hull tankers were being built at cost increases of approximately 3 and 5 percent over the capital investment required for equivalent single hull tankers.

2. While the construction cost of double hull tankers may be higher than single hull tankers, the costs of operating double hull tankers may be less than those of single hull tankers due to the increase in efficiency discussed above.

Studies/Reports

1. The 1975 OTA report "Oil Transportation by Tankers" concluded that "fitting double bottoms or double hulls on tankers offer a significant degree of protection from oil pollution in the event of grounding and/or collision accidents."

2. A 1975 Coast Guard study of 30 groundings in U.S. waters between 1969 and 1973 concluded that a double bottom height of 2.0 meters would have been effective in preventing penetration of the inner bottom with a 96% probability.

3. A 1975 NTSB report of the grounding of the tanker SS Hilyer Brown concluded that the lack of a double bottom contributed to the oil pollution caused by that accident to Cold Bay, Alaska. Because of the Coast Guard's opposition to a double bottom requirement, the NTSB recommended that "additional controls should be placed on the movement of tankships without double bottoms." These controls "should ensure that that the risk of oil outflow from tankships without double bottoms is commensurate with tankships outfitted with double bottoms."

4. A 1981 Maritime Transportation Research Board study entitled Reducing Tankbarge Pollution concluded that "double hull construction (of barges) has been shown to prevent the penetration of the cargo space in 88% of the grounding incidents and in 90% of the collision and ramming incidents involving tankbarges."

There have been no more recent studies on double hulls and comparing their safety record to that of single hull tankers. All of our discussions with experts in this field suggests that these older reports are still valid.

TELECON - P. Johnson, OTA and H. Norseth, Office of Domestic Shipping, MARAD - - 5/4/89 - -

U. S. Flag Tankers built since 1970 with double bottoms:

ARCO ALASKA	120,000 TONS	
ARCO CALIFORNIA	188.000 TONS	
ARCO PRUDHOE BAY	70,000 TONS	
ARCO SAG RIVER	70,000 TONS	
ATIGUN PASS	173,000 TONS	(partial)
B.T. ALASKA	188,000 TONS	
B.T. SAN DIEGO	188,000 TONS	
BLUE RIDGE	42,000 TONS	
CHESAPEAKE TRADER	50,000 TONS	
CHEVRON ARIZONA	35,000 TONS	
CHEVRON CALIFORNIA	70,000 TONS	
CHEVRON COLORADO	35,000 TONS	
CHEVRON LOUISIANNA	40,000 TONS	
CHEVRON MISSISSIPPI	70,000 TONS	
CHEVRON OREGON	40,000 TONS	
CHEVRON WASHINGTON	40,000 TONS	
COAST RANGE	40,000 TONS	
DELAWARE TRADER	50,000 TONS	
EXXON BAYTOWN	58,000 TONS	
EXXON CHARLESTON	40,000 TONS	
EXXON PRINCETON	43,000 TONS	
EXXON WILMINGTON	48,000 TONS	
EXXON YORKTOWN	43,000 TONS	
FALCON COUNTESS	37,000 TONS	(partial)
FALCON DUCHESS	37,000 TONS	(partial)
FALCON PRINCESS	37,000 TONS	(partial)
GUS W. DARNELL	30,000 TONS	
KENAI	123,000 TONS	
LAWRENCE GIAMELLA	32,000 TONS	
OVERSEAS CHICAGO	91,000 TONS	
OVERSEAS NEW YORK	90,000 TONS	
OVERSEAS OHIO	91,000 TONS	
OVERSEAS WASHINGTON	91,000 TONS	
PAUL BUCK	30,000 TONS	
PHILADELPHIA SUN	37,000 TONS	(partial)
POTOMAC TRADER	50,000 TONS	
PRINCE WILLIAM SOUND	123,000 TONS	(double hull)
RICHARD G. MATTHIESEN	32,000 TONS	
SAMUEL L. COBB	32,000 TONS	
SANSINEMA II	70,000 TONS	
SIERRA MADRE	40,000 TONS	
TONSIMA	123,000 TONS	

The above (42) US flag double bottom tankers were all built in the 1970s and 1980s. They represent about one half of all US flag tankers built during that period. None of the 65 tankers in the fleet built before 1970 were built with double bottoms.

Senator **Breaux**. Thank you very much, Senator. We appreciate your being with us, particularly bringing the message from the former Chairman of this committee, the Honorable Warren Magnuson. We are delighted to hear from Senator Magnuson, and his statement will be made part of our record.

We are delighted that he is still in communication with this committee and through your good offices.

As I understand, Brock, what your bill does it require double hulls on all ships calling on U.S. ports. Is that essentially it?

Senator **Adams**. That is correct.

Senator **Breaux**. We will ask Admiral Yost about this, but there seem to be two things governing here. Number one, back in 1978, IMO, the International Maritime Organization, when the United States had that position—I am not sure whether——

Senator **Adams**. Yes, and Mr. Butchman went to that particular conference.

Senator **Breaux**. You were Secretary during that period?

Senator **Adams**. Yes.

Senator **Breaux**. You advocated on behalf of the United States a requirement that all ships have double hulls, and that was rejected by the IMO, and the compromise, as I remember, was that, we are going to have segregated ballasts.

Senator **Adams**. Segregated departments, Mr. Chairman.

Senator **Breaux**. The Coast Guard, I think, and I do not want to put any words in Admiral Yost's mouth, but someone argued that that is a better situation than the double hull even pointing out that had this ship had a double hull, with the speed with which it was underway when it hit the rocks would not have made a difference. It would have probably torn open both hulls and probably ended up taking on water and sinking and may have caused more of a problem.

Have you considered those ramifications in your legislation?

Senator **Adams**. Absolutely. And that was the argument that we had 10 years ago. Segregated compartments are a valuable safety addition. The double hull gives you an additional protection. But what happened with the *Exxon Valdez* at the speed it was going and the reef it hit, as I stated in my testimony, a good portion of the bottom of that ship was ripped open. A double bottom might have saved part, up to half, of the oil, but it would not have saved there being a spill. Nothing could have that I know of in that particular instance.

We were then thrown into the contingency plans, were the cleanup plans good enough. But the double hull, as I have indicated in my testimony, is a safety device that not only strengthens the ship, but it also enables the ship to be more stable in circumstances where it is not on a reef but may have struck one.

The *Exxon Valdez* was a very unusual maritime accident as I know the Chairman is aware. Usually you tear open a side of the hull hitting a needle rock or scraping a reef. For somebody to drive ashore in effect is quite unusual.

Senator **Breaux**. It is interesting. Our information indicates, and I did not ask Exxon folks this this morning, but that the *Exxon Valdez* was originally designed as a double hull vessel that was subsequently redesigned before it was constructed as a single hull vessel. It is an added cost 3 to 5 percent.

Senator ADAMS. That is correct.

Senator BREAUX. But when you look at the consequences and the cost of this cleanup, it is going to cost a lot more than that.

We appreciate your efforts and your diligence. This is not a newfound concern of yours. You have been involved in this for a very long period of time. Thank you very much for your contribution.

Senator STEVENS. Could I make a comment before he leaves? I will not ask any questions, but I have here the amendment that I offered for Senator Magnuson in 1973 when the Alaska pipeline bill was before the Senate. He was in China at the time, and I offered his amendment dealing with this whole subject. And at the time Russell Train was the person who was representing the United States at this IMCO conference.

And we took the position that the United States wanted both double bottoms and segregated ballasts and the Magnuson amendment tried to put that into effect in advance of the final decision of IMCO.

As a matter of fact, Senator Magnuson sent me to that meeting in London in January of 1974, and unfortunately we all know the result of it. But it is interesting to see some of the positions that were taken at the time.

As a matter of fact, the Coast Guard had a proposed rule making that was published on January 18, 1973, requiring double bottoms for all of these vessels transporting Alaskan oil.

Further, I am told that about 80 percent of the vessels actually do have either double bottoms or double hulls. The *Exxon Valdez* did not.

Senator ADAMS. That is correct, Senator Stevens, and I am very pleased that you mentioned that. It just affirms that we have had a consistent position in the United States.

We have had some arguments among our private companies, but certainly this government and this committee has had a consistent position that the double hull was something necessary and something protective, and the thing about it is, Mr. Chairman, it is just part of the cost of doing business. And when you figure in the cost of the double hull, it becomes infinitesimal on the industry's bottom line.

Senator STEVENS. Senator Magnuson was a leader in that regard for years and years and years and years. I am glad that you brought his message to us.

Senator ADAMS. Thank you. I will tell him that.

Senator LOTT. Mr. Chairman and Senator, we appreciate your testimony. It is very interesting, and I think you've made very good recommendations, both the double bottom and the contingency plans.

It is incredible to me that we do not have these contingency plans already in place for just the type of incident that we have had here.

I am from the Gulf, too, right next door to my neighbor here from Louisiana, and we have a lot of oil tanker traffic out in that area, so we are very much concerned about it.

I was interested in oil. I was a member 15 years ago of the Merchant Marine and Fisheries Committee when we first started really talking about the double bottoms and took the action we did then.

You have been around a long time, very much involved in all of this, too. What do you think is the reason why more ships have not gone to the double bottoms, even though I did not realize that it was as high as 80 percent? Is it strictly that 3 to 5 percent additional cost, or is it some other safety or other consideration?

Senator ADAMS. It has been a cost factor was the first factor. Then there used to be an argument among the naval architects as to whether or not a double bottom hull was as stable as a segregated compartment ship.

I never agreed with the industry and the naval architects, I think, were split; more saying that the double hull was safer. And they are required and are used now on liquid natural gas and on hazardous cargoes of various types. So, you can see that it is a safety device.

But that argument has gone on, and we have lost it, as has been so well pointed out off and on for 10 years. And I might say on the contingency plans that, you know, we had a lot of these plans after the Andeo Cadez accident off France. What happens is a period of complacency and time goes by, everybody sort of forgets about the plans.

So, when I was out on Puget Sound last time and started going through the ports—and I might suggest that this would be a very interesting exercise for you at home—I started asking if the equipment was still there. Well, no, some of it was in Seattle and they were not quite sure where some of the rest of it was.

Then I asked well, where is the plan and they said well, there is a clean sound cooperative and it is very good, and it is going to take care of everything. And I said where is their plan. Well, that plan is a secret. Well, that sort of left me where I am today, sitting before you saying I do not think that is the way we ought to run things.

Senator BREAUX. Thank you, Senator.

Let me ask a final question. Suppose the United States tomorrow the Congress legislated into law the requirement that all tankers have double hulls at call in our U.S. ports. What about the rest of the world? Do they just thumb their nose at us and make it more expensive to bring oil to this country?

Senator ADAMS. They cannot thumb their nose at us, in that we can control the safety conditions of our ports. That is the first point. The second point is that our market is so big, Mr. Chairman, that I can not see anybody thumbing their nose at bringing oil in.

And once you have paid for your double bottom the cost is very, very small. People are making billions on this oil and it just sickens me that we do not take the extra step, because in the case of Senator Stevens with his Prince William Sound, the loss that is occurring to the herring fishery, salmon fishery, the whole way of life up there is staggering. If that were to happen in Puget Sound, which is just like a big bath tub, it would wipe out the Dungeness crab, the olympic oyster, our whole salmon runs. It is just incalculable the loss that you can have. And so I just think we should be safe.

Senator **Breaux**. One other point I think, Senator Adams, we have had two estimates of damage mitigation. If the *Exxon Valdez* had had double hull and one from a naval architect said that 50 percent less oil would have been spilled and a U.S. Navy salvage expert said 25 percent less. And I have heard other arguments that it would have been a worse spill. So, we have conflicting testimony on the value of a double hull on this particular type of accident, because they tore the whole bottom out.

We thank you very much. You have been very, very helpful, Brock, thank you.

Senator **Adams**. Thank you all very much.

Senator **Breaux**. We would like to welcome one more time this afternoon Admiral Yost. Come on up, we are delighted to have you back. Admiral, we are delighted to have you back. If you could summarize your testimony, you know the areas this subcommittee is looking at.

STATEMENT OF ADM. PAUL A. YOST, JR., COMMANDANT, U.S. COAST GUARD, ACCOMPANIED BY CAPT. JOHN KLOTZ, CAPTAIN OF THE PORT, NEW ORLEANS

Admiral **Yost**. Let me just submit my testimony for the record. Sir, I did summarize testimony this morning as well. With your permission, I would be happy to go right to the questions and save some time, sir.

[The statement and questions and answers follow:]

Statement of Adm. Paul A. Yost, Jr., U.S. Coast Guard

Thank you very much and good afternoon, Mr. Chairman.

Accompanying me today are the chief of my Office of Navigation Safety and Waterways Services, Rear Admiral Robert Nelson; the chief of my Marine Environmental Response Division, Captain Richard Larrabee, and the commanding officer of the Marine Safety Office New Orleans, Captain John Klotz.

I am pleased to meet with you and the other distinguished members of this subcommittee to discuss issues relating to the grounding of the *Exxon Valdez* and the resulting oil spill in Prince William Sound.

As you know, the President directed me to serve as the Federal coordinating director for the *Exxon Valdez* cleanup. Having just returned from a lengthy stay in Alaska, where I met with Vice President Quayle, I must say I am encouraged by the contribution being made by the men and women of our military forces and a myriad of Federal agencies who are working vigorously in the cleanup effort. The task is enormous. This spill is one of the worse economic and environmental calamities this nation has ever faced. Seeing the fouled shoreline and beaches and the devastating effect on wildlife firsthand removes any doubt of the severity of this spill.

Let me assure you that President Bush, Vice President Quayle and Secretary Skinner remain deeply concerned about this spill, as well as other environmental issues, and are very interested in the Coast Guard's marine safety and environmental protection missions.

I would like now to address the national system that is in effect for responding to oil and hazardous material spills and the appropriate regulations governing both terminals and vessels. Finally, I'll describe some of the Coast Guard initiatives that may result from the *Exxon Valdez* oil spill.

Before addressing the specific issue of contingency planning, let me briefly touch on the Coast Guard's efforts to prevent accidents like the *Exxon Valdez* spill. Surely our efforts in this area must be of primary importance. Over the years and through the Coast Guard's active participation at the International Maritime Organization, we have substantially raised the level of vessel design, construction and maintenance. Additionally, we have led the way in improving the qualifications not only of our own merchant mariners, but those of the foreign flag vessels calling on U.S. ports. The world tanker fleet has adopted the procedures provided in the International Convention for the Prevention of Pollution From Ships (MARPOL) and substantially reduced operational discharges from tank cleaning and reduced the threat of pollution during accidents such as groundings and collisions. The Coast Guard will continue to make improvements in prevention techniques.

In 1972, the United States developed a national oil and hazardous substance spill response system, based on statute and regulation, which relies on the maintenance of comprehensive contingency plans, and functions through an effective network of interagency relationships. This Federal system is described in regulation in the national oil and hazardous substances pollution contingency plan (NCP). It establishes three organizational levels: the national response team, regional response teams, and on-scene coordinators. The national response team, consisting of 14 Federal agencies, is primarily a national planning, policy and coordinating body. There are 13 regional response teams throughout the United States and its territories. Each regional response team maintains its own regional contingency plan, and has State, territory, and Federal representation. Like the national response team, the regional teams are planning, policy, and coordinating bodies. The on-scene coordinator is a Federal official predesignated by the Environmental Protection Agency for inland areas and by the Coast Guard for coastal areas. Each of the 48 Coast Guard captains of the port is a predesignated on-scene coordinator.

Each captain of the port has developed a local contingency plan (LCP) for its geographic zone. Each plan has a detailed description of the roles of Federal, State, and local agencies, and organizations comprising the regional and local response teams. It also describes their formal and informal pollution and emergency response plans. The proposed NCP includes language which requires these plans to be coodinated with the plans developed by local emergency planning committees established under Title II of the FWPCA Amendments of 1983. The main objectives of the local contingency plan are:

Identify, through a hazard analysis, probable locations of discharges;

Develop effective reporting of pollution incidents;

Develop effective response strategies;

Institute prompt and effective actions to restrict the spread of pollutants;

Minimize damage to wildlife and the environment;

Address locations for the disposal of collected pollutants;

Identify government, commercial, and industry resources capable of responding to spills; and

Identify procedures for initiating actions for the recovery of cleanup costs and performance of enforcement actions as necessary.

It is important to note that all Federal contingency plans allow for the incorporation of State and local plans, along with plans developed by industry and oil spill cleanup cooperatives. Each Federal plan also calls for the mobilization of regional Coast Guard resources, and for the activation of members of the special response forces including the national strike team, the public information assistance team, EPA's emergency response team, and NOAA's scientific support coordinators.

The responsibility for cleaning up an oil spill now clearly lies with the party responsible for spilling the oil, and rightly so. The Federal on-scene coordinator is required to monitor their response actions to ensure that spills are cleaned up in an acceptable and timely manner and that damage to the environment is minimized. If the responsible party is unable or unwilling to respond, or if the response effort is unsatisfactory, the on-scene coordinator has the authority to intervene and take over the cleanup efforts. Section 311(k) of the Clean Water Act provides funds for the on-scene coordinator to take immediate action to clean up a spill.

Mr. Chairman, much has been said about the adequacy of the contingency plan for the port of Valdez and the inability of the plan to provide for an effective response to a spill of this magnitude. Likewise, the spill has raised concerns about the adequacy of similar plans, both federal and local, for other major U.S. ports.

The contingency plan for Prince William Sound was developed after enactment of the Trans-Alaska Pipeline Authorization Act in 1973. It was required by the State of Alaska as a condition of the facility's operating permit. Neither the original 1980 plan nor the revised 1987 plan (relating to terminal operations) required approval by the Federal Government. The focus of the plan was threefold: Notification; reconnaissance; and spill mitigation and control. In the first two areas, the plan was adequate. The Coast Guard and other appropriate agencies were notified of the spill in a timely manner and an initial reconnaissance did take place at the first opportunity. But in the last area, spill mitigation and control, clearly, the contingency plan was inadequate to deal with the enormity of the *Exxon Valdez* spill. It was based on the maximum probable spill of 1500 to 2000 barrels of oil. The spill that occurred was more than 100 times that size (240,000 barrels of oil). Furthermore, the containment efforts were hampered by the rapidity with which the oil poured into the water, the remoteness of the location and the fact that it occurred in the middle of the night. There were other deficiencies in the plan and its implementation as well.

The Coast Guard has no authority to require industry to pre-stage specific resources and personnel for response or cleanup. Furthermore, the Coast Guard has no authority to require contingency plans for vessels. The Coast Guard does have authority to require marine oil transfer facilities to have ready access to sufficient oil containment material and equipment to contain any oil discharged on the water from operations at that facility. The Coast Guard requires the facility to maintain an operations manual. This manual must include containment and cleanup procedures, spill notification procedures, and an inventory of spill equipment. The Coast Guard reviews and approves these operations manuals, and conducts periodic inspections of the terminals.

I would also like to discuss some of the studies and initiatives that are taking place as a result of the *Valdez* oil spill. The President directed Secretary Skinner and EPA Administrator Reilly to conduct an assessment of the overall response efforts, contingency planning, and lessons learned in the Valdez case. That study should be completed very soon. The President has also ordered a nationwide review of all oil spill contingency plans. The Coast Guard has already required its marine safety offices to review their local contingency plans. This process will include a comprehensive risk analysis within each port area, with the intention of identifying shortfalls in resources and plans. This review will give us a good assessment of our capabilities to conduct a response to a major spill in any U.S. port or harbor.

Another initiative involves the development of an overall national research and development plan for oil and hazardous substance spill prevention and response. This plan will involve the coordination of all relevant research and development activities for federal agencies, and as a first step, will evaluate the existing worldwide state-of-the-art in oil and hazardous substances pollution response equipment.

We have taken steps to review the need for additional authorities under the Clean Water Act and possibly the Port and Tank Safety Act. This study will look at existing law, with an eye toward changes such as the authority to direct a spiller's cleanup actions rather than just monitoring the effort. It will also consider a mechanism for the President or Secretary of Transportation to declare a spill of national significance and to institute a disaster management "super-response" organization.

We must also address the issue of civil and criminal penalty authority, and finally, to look at alternatives to heighten facility and port pollution response readiness.

I believe it is also necessary to review the standby and availability of the Coast Guard's national strike force and its component parts.

I will be pleased to respond to your questions. I will ask Captain Klotz to give you a brief on some of the specific port safety and contingency planning issues in New Orleans to illustrate what we are facing nationwide.

U.S. Department of Transportation
United States Coast Guard

Commandant
United States Coast Guard

Washington, D.C. 20593-0001
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The Honorable John B. Breaux
Chairman, Subcommittee on Merchant Marine
Committee on Commerce, Science & Transportation
United States Senate
Washington, D. C. 20510-6125

Dear Mr. Chairman:

The attached Questions and Answers for the Record are provided pursuant to your Subcommittee hearing on May 10, 1989, concerning VTS New Orleans and New Orleans activities, submitted as per your request. All responses have been reviewed and approved, as required, by the Department of Transportation, and the Office of Management and Budget.

Please do not hesitate to call if I can provide further assistance.

Sincerely,

T. J. Schaeffer
Captain, U. S. Coast Guard
Chief, Congressional Affairs Staff
By direction of the Commandant

QUESTIONS SUBMITTED BY SENATOR BREAUX
SENATE MERCHANT MARINE SUBCOMMITTEE

SENATOR BREAUX: How many double bottom tankers carrying oil, liquid flammable gases and hazardous chemicals, respectively, are currently operating in the U.S. fleet?

ANSWER: There are a total of 297 tankships in the U.S. fleet. The following breakdown includes only those 243 tankships over 1,600 gross tons, as they are most representative of the oceangoing fleet.

U.S. OCEANGOING VESSELS WITH DOUBLE BOTTOMS

VESSEL TYPE	ALL VESSELS	VESSELS W/ DBL BOTTOMS	NOTES
OIL/PETROLEUM	186	29	
OIL CHEMICAL	11	7	
CHEMICAL	8	3	
OIL-BULK-ORE	12	8	A
INTEGRATED TUG/BARGE	12	8	B
LIQUEFIED GAS	14	14	C
TOTAL	243	73	

NOTES:

A These vessels are capable of engaging in a variety of dry and liquid bulk trades.

B The operation of these vessels more closely resembles oceangoing tankers than tank barges.

C Due to the cryogenic nature of these cargoes and the need to build in a substantial amount of insulation to preserve their liquefied state, all of these vessels have double bottoms.

SENATOR BREAUX: Are there recent studies comparing the accident histories of double bottom tankers and single hull tankers? Does the Coast Guard have the information necessary for compiling this study and could such a study be completed for the committee?

ANSWER: To the best of our knowledge, no studies comparing double bottom and single hull tanker accident histories have been undertaken in the last 10 years. The Coast Guard presently has the capability to extract relevant information from existing data bases to support such a study of U.S. flag tankships. A study of the international tanker fleet requires development of additional data. We are currently seeking sources to provide the information necessary to compile those data bases.

SENATOR BREAUX: Why are hazardous chemical and liquefied natural gas tankers required to have double bottoms? Have these tankers experienced the problems Admiral Yost has associated with double bottoms in his testimony?

ANSWER: Certain hazardous cargoes must be carried in tanks that are protected by a double bottom and double sides so that no cargo can leak directly from a tank into the water. Many chemicals and liquefied flammable gases (LFG) have characteristics far more hazardous than oil or other chemicals; their release would be much more dangerous to persons, property, and/or the environment. In 1984, the chemical tankship PUERTO RICAN exploded after cargo leaked into a void space. Even though this void was not a double bottom, it illustrates the potential explosion hazard that exists with any void space that bounds a cargo tank. There have been several major groundings and collisions involving LFG tankers. Worldwide statistics from 1964-1981 show that only two of these resulted in cargo spillage, neither of which were serious. The Coast Guard's casualty database, which contains casualty information on U.S. vessels and foreign flag vessels in U.S. waters, shows no collisions or groundings resulting in LFG spillage from 1980-1988. We have asked the National Academy of Sciences' Marine Board to examine the advisability of requiring oil tankers to have double bottoms and/or sides.

SENATOR BREAUX: In his testimony, Admiral Yost stated that the Exxon Valdez would likely have sunk had it been equipped with a double bottom. Is there an empirical basis for this statement? Would the Exxon Valdez have sunk had it been dislodged from the reef?

ANSWER: Preliminary calculations made by the Coast Guard indicate that, had the vessel been taken off the pinnacle immediately after the grounding, it would have been in an extremely precarious situation, probably leading to the loss of the vessel. Similar calculations for the Exxon Valdez as a double bottom tanker indicate that a double bottom would have limited the extent of damage (breaching fewer tanks) and led to a greater chance of survival.

When the full extent of damage is not known with certainty, as in the case of the Exxon Valdez, and the damage is of a tearing or ripping nature, a rule of thumb in salvage operations is to keep the stricken vessel hard aground to allow sufficient time to make temporary repairs in a planned, methodical manner. The operations to save the Exxon Valdez were the first in this country undertaken on a vessel of that size, or of such extensive and severe structural damage.

SENATOR BREAUX: There was testimony in the hearing that in an accident where a double bottom is pierced, the tanker will sink deeper into the water, complicating salvage operations.

(a) Have there been specific instances where this has created a significant problem for an oil tanker?

(b) Aren't there situations where having the tanker firm aground benefit salvage operations, and make it easier to conduct lightering operations? For instance, when the Exxon Valdez grounded, the Coast Guard warned the captain not to try to rock the ship loose from the rocks, because the ship might sink or rupture more tanks. When salvage operations are undertaken, isn't it fairly easy to give a tanker more bouyancy by emptying the tanker of some of its cargo?

(c) Would a single hull tanker lose buoyancy if a segregated ballast tank were punctured?

(d) If a cargo tank is pierced at the same time as the double bottom, would the loss of cargo make the tanker more buoyant and offset the loss of buoyancy from the water entering the double bottom?

ANSWER: (a) Based on the limited information on salvage operations available to us, we cannot cite specific instances at this time. Large oil tankers are almost invariably of single bottom design, and salvage procedures on such tankers would not answer this question.

(b) Yes, there are situations where being firmly aground would benefit salvage operations, especially when stability in the damaged condition is suspect. Lightering cargo to gain buoyancy is usually necessary for salvaging a grounded tanker irrespective of whether it is a single or double bottom vessel. The lightering operation can be difficult in that it involves bringing the smaller lightering tanker into shallow waters in close proximity to the grounded tanker. In a double bottom tanker, buoyancy can be gained by using air pressure to displace damage water from the double bottom without the risk of driving oil through the bottom.

(c) A single hulled tanker would lose a substantial amount of buoyancy if a segregated ballast tank were punctured because the ballast tanks are almost always empty when the vessel is fully loaded with cargo. Moreover, a significant heeling of the vessel would result since segregated ballast tanks are usually located outboard of the cargo, along the side of the vessel.

(d) It could be marginally beneficial, especially if the tank were fully loaded to begin with, resulting in cargo outflow to the level of the exterior waterline. This gain in buoyancy would be largely offset by the added weight of damage water in the double bottom. In a single bottom tanker, the gain in bouyancy would be much greater.

QUESTIONS SUBMITTED BY SENATOR DANFORTH
SENATE MERCHANT MARINE SUBCOMMITTEE

SENATOR DANFORTH: Would you support random and periodic recurring testing for alcohol for those licensed personnel who direct and control oil tankers?

ANSWER: From a safety viewpoint, the Coast Guard does not object to required random and periodic alcohol testing programs for tankship personnel. Regulations have been in place since January 1988, requiring vessel owners and masters to exercise diligence in ensuring that their vessels are not operated by intoxicated individuals. The regulations provide them with the authority to require crewmembers to undergo chemical testing for alcohol or drug use if the individual is suspected of being intoxicated. The EXXON VALDEZ incident has impressed upon vessel owners their responsibilities in this regard, and inasmuch as the effects of alcohol use are usually readily observable, few if any owners or masters will ignore their responsibilities by not requiring chemical tests. Therefore, although random and periodic alcohol testing programs may be of some value in detecting or deterring alcohol abuse, the costs of implementing a federally mandated program may outweigh the additional benefits expected.

SENATOR DANFORTH: Would you support access by the Coast Guard to information in the National Driver Register about applicants for new and renewed licenses to direct and control oil tankers?

ANSWER: Yes. Access to the National Driver Register records would make information regarding drunk driving convictions and other similar offenses, which could affect license eligibility, more readily available to the Coast Guard.

SENATOR DANFORTH: Would you support expanding the Vessel Traffic Service (VTS) range in Prince William Sound?

ANSWER: I support improved and expanded surveillance capability. The Prince William Sound Vessel Traffic Service area of operations presently extends beyond Cape Hinchinbrook into the Gulf of Alaska. Since a large portion of this area is without surveillance, the Coast Guard is examining various surveillance schemes (radar and dependent surveillance) as a means to provide VTS watchstanders with a more complete traffic picture.

SENATOR DANFORTH: Would you support installing a navigation light on Naked Island?

ANSWER: Our review of the visual aids to navigation in Prince William Sound after the EXXON VALDEZ grounding found that the present aids were adequate. This review included discussions with the local pilot organizations. Installation of a light on Naked Island would be difficult to construct and maintain. Although I believe the light is not required for safe navigation, I would not oppose installation if funds are provided to the Coast Guard to do so.

SENATOR DANFORTH: Would you support requiring at least 2 people on deck with licenses for the restricted waters being transited?

ANSWER: Although the current pilotage regulations allow properly licensed masters or mates of coastwise seagoing vessels to serve as both navigating officer and pilot, safe navigation on certain waters could be enhanced by having two licensed deck individuals on the bridge, at least one of whom possesses the appropriate pilotage endorsement. However, this requirement should not be applied universally, but only in those circumstances where the nature of the waters, vessel characteristics, or other factors present extraordinary hazards. The circumstances under which the requirement should be applied could be specified in regulations.

SENATOR DANFORTH: What is your view of the state-licensed versus federally licensed pilot issue?

ANSWER: The existing provisions of 46 USC, Chapter 85 clearly delineate between the authority of the states and the federal government in establishing pilotage requirements. The two systems have historically provided for the pilotage of vessels in both foreign and domestic trade in the U.S. territorial waters and have proven to be compatible and complimentary. There does not appear to be any reason why either system should be preempted or preferred over the other.

The existing regulations have been repeatedly reviewed by the Coast Guard in light of accident investigations, technological changes, new operating concepts, development of internationally recognized guidelines, new domestic statutes, and proposals from interested parties including recommendations by the National Transportation Safety Board.

The Coast Guard is currently conducting a study of the U.S. pilotage system to identify any shortcomings and to evaluate possible alternative activities which could enhance marine safety. The full time study group, chaired by a Coast Guard Rear Admiral, has been tasked with reviewing those vessel categories that require pilots; the basis for pilotage requirements; the waters on which the pilotage requirements apply; the criteria used to determine an individual's competency to serve as pilot; the pilot's authority while on board; the proper roles for the Federal and state governments; and navigational equipment and operational requirements for vessels operating in the approaches to the pilot waters. It is anticipated the study will be completed in October, 1989. After the study's recommendations are received, the Coast Guard will publish the report for review and comment.

SENATOR DANFORTH: How many oil tankers transit Prince William Sound each year? Of that number, how many have double bottoms and/or double hulls?

ANSWER: Since 1984, an average of 214 tankers have transited Prince William Sound each year. Approximately 25 percent of these had double bottoms and/or double hulls.

SENATOR DANFORTH: What, if any, other changes in laws, regulations, and operating procedures would you recommend the Committee consider?

ANSWER: At the present time there are three statutory initiatives that need your support. These are:

a. Ratification of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

b. Passage of the Administration's Oil Spill Compensation and Liability legislation.

c. Passage of the Administration's legislation to improve the Coast Guard's ability to monitor the character and fitness of those persons to whom it issues a merchant mariner's document, license, and certificate of registry.

As a result of the EXXON VALDEZ incident, the Coast Guard is reviewing regulations and internal procedures addressing a broad range of marine safety issues, including; pilotage, oil pollution R & D, tank vessel construction, and vessel inspections. As a result of lessons learned, these reviews may indicate a need for changes to existing law, regulations, or policies. If so, we will initiate the needed changes.

QUESTIONS SUBMITTED BY SENATOR PRESSLER
SENATE MERCHANT MARINE SUBCOMMITTEE

SENATOR PRESSLER: According to news sources, approximately 3,400 people currently are working on Alaskan shores to clean up spilled oil. Is it true that the Coast Guard would like twice that number of workers on the job? If that is the case, why haven't more people been employed in the cleanup, in your opinion?

ANSWER: The May 1, 1989, plan submitted by Exxon showed 3,400 total personnel allocated for shoreline cleanup. Of those, 1,475 would be directly involved as onshore workers, while the remaining personnel would be in support of that shoreline effort. The Federal On-Scene Coordinator (FOSC) advised Exxon that this proposed workforce needed to be substantially increased in order to increase the rate of shoreline cleanup.

On May 24, Exxon submitted a revised plan to the FOSC. This plan expanded the area of cleanup to cover areas outside Prince William Sound (Seward, Homer, and Kodiak sectors). It provides for 2,500 onshore workers involved in cleaning the shorelines inside and outside Prince William Sound, and a total force of over 5,000 workers, including support personnel, dedicated to shoreline cleanup. The FOSC is generally pleased with the rate of progress, will closely monitor the situation, and will advise Exxon if he feels more personnel are needed.

SENATOR PRESSLER: I also have heard, that the Russian skimmer used in the cleanup has been instructed that its assistance is no longer necessary. What is your opinion of the timing of this instruction?

ANSWER: The Russian skimmer VAIDAGURSKI is a large weir skimming vessel designed to skim large patches of oil. By the time the VAIDAGURSKI was on-scene, the oil in the Gulf of Alaska had formed into extremely viscous, frothy, sticky masses, with a mousse-like consistency. This condition made all skimming operations extremely difficult, and particularly reduced the effectiveness of weir skimmers. This, combined with the fact that the remaining mousse was widely separated in small patches, made the continued use of the VAIDAGURSKI impractical.

QUESTIONS SUBMITTED BY SENATOR STEVENS
MERCHANT MARINE SUBCOMMITTEE

SENATOR STEVENS: Exxon is a participant in the operation of the North Sea oil facility at Sullom Voe in the Shetland Islands. This facility is very similar to the facility at Valdez in terms of geography, weather conditions, and throughput of oil. Yet the facility at Sollum Voe has considerably stricter operating standards and procedures, such as:

* a vessel trafic control system that provides extensive radar coverage and pilot control, helicopter transport of pilots in rough weather, aerial surveillance of tankers, and mandatory off limit areas for tankers;

* shut down of terminal operations for minor violations of regulations, firm visibility and wind limits for berthing and loading, use of four tugs to dock, and a safety checklist for departing and arriving tankers which are verified by qualified inspection officers; and

* frequent regularly scheduled drills for oil spill response teams, permanent mooring points for booms in environmentally sensitive areas, and an annual exercise involving all oil response teams and equipment.

Has the Coast Guard reviewed, or considered similar measures for the Valdez facility?

ANSWER: With respect to vessel traffic services, the Coast Guard examines traffic management practices and equipment in use in other countries to determine if they may enhance our own operations. We have limited information on the Sullom Voe VTS and are unaware of the extent to which operators at Sullom Voe exercise control over vessels. However, in light of the many similiarities between these two harbors, we intend to contact the Shetland Islands Port Authority directly to obtain more information and determine if their practices could be applied in Valdez. Similarly we intend to review the operating procedures and standards of the North Sea oil terminal facility at Sullom Voe to determine if their practices could be applied at U.S. ports including Valdez.

Senator **Breaux**. Thank you very much. I appreciate that. We heard the testimony this morning and we know the facts. And we are just trying to focus in on some more specific issues.

One of the issues that has always concerned me—and it was an avoidable accident. I have said that a thousand times. We could talk about a double hull as being a mitigation in the damage, but if we had a sober captain we probably would not have had to worry about anything else. We would not have had to worry about the clean up, we would not have had to worry about the double hulls and all the other problems that Senator Stevens is facing.

Now, how is it possible in the existing rules, and that is where we maybe can help, that a person who could not drive a station wagon in the state of New York can find himself as captain of one of the world's largest super tankers, fully loaded with oil? When you ask a person on the street, he says this guy could not drive a car, how can he captain a ship? What rules do we have that address that?

Admiral **Yost**. Every mariner must renew his license, and that renewal comes every five years. At that time, this particular captain made out a renewal application. The application requires that he state whether he has had any violations or has been found guilty of any violations other than minor traffic violations during the previous five-year period. "This applicant put on his application, none."

Now, had he put on his application what has later come forward—that he did have, I think, four convictions for driving while under the influence and in at least one of those lost his license—had he put that on, it is highly unlikely that he would have gotten a license. It is also highly likely that he knew that, and that is why he did not put it on.

We have a situation where a mariner who comes to renew his license with that kind of a record is certainly not going to put that on his application. We need a way of checking records that would document convictions. We have legislation pending that will allow us to query those records, and that would be a big help. But what concerns me is that the system would still be far from perfect.

We know that there are lots of people who abuse alcohol who have never had a conviction—who may not even own a driver's license. So we wouldn't get everybody. Also there are probably people who have a conviction on their record that really are not abusers. They may have made a mistake one time, and gotten picked up, but they are not alcohol abusers.

Senator **Breaux**. Do you have the authority now to revoke a mariner's license for a non-maritime related incident?

Admiral **Yost**. No. Once a mariner has a license we cannot revoke his license for anything that was not done under the authority of that license.

Senator **Breaux**. Well, let me ask you what then——

Admiral **Yost**. Except for drugs.

Senator **Breaux**. Is alcohol considered a drug in this situation?

Admiral **Yost**. No.

Senator **Breaux**. Alcohol is not considered a drug?

Admiral **Yost**. No. It is not. But if he is a drug violator and we find out about that, we may revoke his license.

Senator Breaux. Say you have a captain, X, on a ship who has a valid license and you find out in the course of someone calling it in or finding out beyond a shadow of a doubt with clear evidence that he has had four DWIs. Under the current regulations, that does not legally give you the authority to yank his mariner's license?

Admiral Yost. There would probably be some special procedures initiated that would address that, but it would not be a routine thing. It has probably never happened.

Senator Breaux. Senator Stevens make a point it is a false under oath, but I am assuming that when he got his license he had no convictions. And everything that he said on his license application was true and correct and that after he gets his maritime captain's license, he then is involved in a series of DWIs and you find out about it. It is a non-maritime related incident and, therefore, you really do not have any clear-cut authority to yank his license based on that.

Admiral Yost. Right, Senator, until it is time for renewal.

Senator Breaux. Would you like that authority? Would that be helpful? Is that something that is in the interest of maintaining a competent maritime——

Admiral Yost. Yes, it is in the interest of safe navigation, but whether it is do-able or not is the question. I have questions about how we could make it work. Would we wait for a subordinate or a peer to report this person? Would his wife report him? How would we do that? But, yes it would help marine safety, no doubt about it.

Senator Breaux. I have a piece of paper here that is a list, they call it the slop chest price list on a management company for a foreign ship which calls on U.S. ports. And it lists on that price list all kind of different brands of alcohol that are available to all crew members because it is entitled 1989, March of 17th, to All Crew Members, Slop Chest Price List: Brandy, Whiskey, Black and White Label, White Horse, Jack Daniels for $7.50, Cutty Sark for $5.50, Wild Turkey for $8.00, Chevas Regal for $20.00, Budweiser, San Miguel.

I guess my question is, is it currently illegal for a vessel that calls on a U.S. port to carry liquor to be sold to the crew?

Admiral Yost. There is no regulation against that in our country. Frankly, I do not think that there is anything illegal about an American ship doing exactly that. It is only illegal for a crew member to be on duty with more than .04 percent blood alcohol content.

Senator Breaux. Would it be helpful for you to have the authority to be able to issue regulations not only to say that it is illegal to be drunk on board a ship, but that it is in fact illegal to sell liquor to the crews that are in charge of running the ship? I mean, to think that we could sell alcohol to the captain of a 747 is a very frightening thought, but yet the damage that can occur as a result of a grounding of a super tanker is at least as serious. Would that be something that would be helpful? What would be the Coast Guard's policy if we ask you that.

Admiral Yost. Well, I think it sounds like it would certainly be helpful. I do not know whether it is against the law for a captain of a 747 to come back and have a drink; it probably is. But we needed something we could enforce. We did not think that we could enforce a law prohibiting alcohol on the ship. That would require us to do a search of a person, his belongings, and that sort of thing. So, what we did is establish a blood alcohol level that was relatively low, and that is something we could check that would constitute an offense.

All of these things would be helpful, and I would agree with them and support them. But whether they would be things that we could prove an offense on, would be more difficult, I am sure.

Senator **Breaux**. I will let my colleagues get involved in this or in other areas or this one if they want. But, are there some specific lines of authority that the Coast Guard does not have currently that you would like to have with regard to the regulations of either the use of alcohol on ships as well as the ability to check any previous alcohol- and drug-related violations before a person is licensed as a captain or as a mariner?

Admiral **Yost**. I think there might well be. I would like to respond to that for the record. In addition, I would like to mention that, as far as I know, every major American flag company forbids, by their company rules, liquor aboard their vessels. Certainly, Exxon does. This master, if he had liquor aboard, would have been in violation of Exxon's rules.

[The following information was subsequently received for the record:]

Coast Guard regulations, effective as of December 1987, covering the operation of a vessel while intoxicated, contain adequate controls over the consumption of alcohol by merchant mariners.

The Department of Transportation is proposing legislation to address other aspects of the regulation of merchant marine personnel matters:

1. Seeking periodic renewal of all Staff Officer certificates and seaman's documents (now issued for life).
2. Seeking authority to deny issuance or withhold renewal of all certificates and seaman's documents based on lack of acceptable character and habits of life including alcohol abuse.
3. Seeking access to data on applicants for licenses, certificates and seaman's documents in the National Driver Register (NDR).
4. Seeking authority to extend the Coast Guard's jurisdiction to suspend or revoke licenses, certificates and seaman's documents due to misconduct ashore related to alcohol abuse or certain other relevant misconduct which would justify denial of an original license, document or certificate.
5. Establishing statutory authority and provide procedures for the next senior officer to temporarily relieve the Master of command of a vessel for incapacity resulting from intoxication as the result of the use of dangerous drugs or alcohol.

Senator **Breaux**. Did the check by the Coast Guard indicate the presence of liquor on board the ship in addition to the captain?

Admiral **Yost**. No. There was no evidence, but neither did we check his personal belongings or do a search. But there was no evidence that he had liquor aboard. There was evidence that he did have a blood alcohol level that indicated he drank alcohol before he came aboard.

Senator **Breaux**. Was his stateroom checked for the presence of alcohol?

Admiral **Yost**. I do not think so. I do not think there was a search made of that stateroom. But I would have to check that.

Senator **Breaux**. Would there be a reason why that was not done, if in fact he was determined to be at a level above the level of intoxication?

Admiral **Yost**. I do not know that there would be a reason, but there would be no offense if he had a bottle in his room. That would not be an offense at this point. It would be in violation of the company rules. The company may have had his cabin searched. That I do not know. The only offense under the current rules are having a blood alcohol level in excess of the .04.

Senator **Breaux**. Thank you. Senator Lott.

Senator **Lott**. Admiral Yost, what about the double bottom issue? Would they really make that much difference? Would it have made the difference in this case? Is this something we should pursue again and aggressively?

Admiral **Yost**. Well, I think Senator Brock Adams was correct when he said that had that ship had double bottoms, it would have probably lost only about half the oil that it lost. That is the good news.

The bad news is had that ship had double bottoms and come off of the pinnacle, it would have probably sunk right on the spot. But it might have sunk anyway with the amount of damage that it had.

There are a lot of people, a lot of opinions for double bottoms. There are just as many against it.

Senator **Lott**. One of the arguments against it other than the cost and possibly the balance we are talking about—stability.

Admiral **Yost**. Well, cost we had not considered, although it is more costly. The arguments against it are from a maritime viewpoint. In ships with double bottoms the double bottom is empty. When a ship with double bottom construction hits the ground and sustains damages, the bottom fills with water and it loses buoyancy. If the vessel is loaded, with the rest of the tanks filled with fuel, a small amount of bottom damage might send that vessel down. Alternatively, if you had wing tanks that were void, those wing tanks would keep it afloat because wing tanks are not normally damaged in a grounding. Most damage occurs from collisions, not groundings.

I think Brock Adams said something to the effect that it is almost unbelievable that that ship was driven aground. I agree with him. More often you have damage from collision.

Double bottoms do not help you in a collision. There are studies that show that, overall, you lose one-and-a-half times more oil through collisions than you do through groundings. One would think that protecting against collisions with side tanks—segregated ballast tanks—would do better than double bottoms.

Now, what Senator Adams is talking about is double hulls That is double bottoms and double sides. When you go to that, you have a safer situation. There was cartoon during the time that we were presenting double bottoms at IMO that basically showed a ship that was all protection, bottom and sides, and it had suspended in the center of it one barrel of oil. Here was this major tanker, with one barrel of oil perfectly protected from almost anything you could imagine. It is a balance.

There is another problem with double bottoms. If you get a leak in your double bottom—I mean a leak from the top—and you get some crude oil or product or petroleum gasoline in that double bottom that vaporizes, you then have a bomb. You are riding on a vessel with vaporized fuel that can not be inerted in that double bottom.

So there are arguments against double bottoms. There are arguments for it. I do not hold a portfolio for one or the other.

Senator Lott. But you do think it is something that it is something that would be worthwhile for us to pursue further?

Admiral Yost. We have pursued it very hard in the international arena. We lost it in the international arena for most of the reasons I have talked about here. When we go to the international arena again, or in the public procedures in the United States, you are going to hear all the same arguments against double bottoms. This Congress will have to weigh those arguments again before you send us out to negotiate.

Senator Lott. Well, only one other question because you have been very patient today and I know you have a lot you need to do, but I think Senator Brock Adams is also probably right. It is like after hurricanes. When we have major hurricanes people do not move right back in and build in hurricane-prone areas, the low-lying areas that flood or whatever. But after a while, five years, six years, 10 years, you know, it gets very tempting. And it is usually a quite beautiful area, and we move back into those areas and build again. I think that is what happens, you know, with these contingency plans. They are probably in a state of ill repute and disrepute and do not exist. Is that true? And is that not one of the things we are going to do as a result of this incident, is to get those back active.

Admiral Yost. I do not think the contingency plans have been discarded, but neither have the people been as well trained and as well drilled. The exercises have not been held. The equipment has not been replaced, as it is worn out and become obsolete, in the quantities that it should. The equipment has dwindled in many of our areas because economically the equipment does not earn any money. It just sits there. And so, yes, I think there has been some falling away.

Senator Lott. Thank you.

Senator Breaux. Senator Stevens.

Senator Stevens. Well, I am just glad you did not come back sooner. You would have had half my sandwich, I think. The light at Bligh Reef is on the seaward side of the Reef. It was suggested to me that we ought to have one on each end and the bill that I introduced yesterday provides that you be required to put one in. Is that contrary to navigation policy to have one at the end of an obstacle such as that towards the port? Are they always on the seaward side?

Admiral Yost. I am not sure there is a policy on that. It is put where they feel it would best watch and help the navigator. Your bill, I think, proposes a light house, does it not?

Senator Stevens. Yes, not manned.

Admiral Yost. I think that makes a lot of sense. We have to look at that, and we will get back to you. I think the State of Alaska is making some proposals on aids to navigation as well.

Senator Stevens. Yes, they are and one of them is an additional radar, again, unmanned, but responsive to the situation. Why was there only a radar in this instance emanating from Valdez itself.

This was not triangulated at all. Is there any reason for that? Is it just a matter of the original installation, and technology has grown since then, and we have not really totally upgraded it?

Admiral YOST. I think we could upgrade that radar. It was put in originally just to protect the Valdez arm and, most particularly, the narrows. That was thought to be the danger point. You remember, sir, the concern about Middle Rock and whether we ought to remove Middle Rock in its entirety, et cetera. The concern was that something would go aground on Middle Rock, in the narrows. Nobody ever seriously considered something going aground out in the sound that is so wide.

So the radar was never designed to cover that area or serve that area. In that area we had the separation scheme so two tankers would pass with a buffer zone in between them, much like the median strip of a super highway. That was felt to be sufficient. It was, for 12 years.

Senator STEVENS. I hate to give your people, who are already loaded down with problems, additional questions. But I am intrigued by something that we cannot find in our records. You did publish, on January 18, 1973, a proposal to put in place a requirement that all vessels transporting Alaskan oil be double bottoms. And I know that IMCO came out later with their decision, but I do not know what you did with your rule making. We have nothing to show when it was cancelled. Would you give us that for the record?

Admiral YOST. Yes, I would.

[The information referred to follows:]

The rulemaking you refer to was not cancelled. On January 26, 1973, the Coast Guard published an Advance Notice of Public Rulemaking (ANPRM) dated January 18, 1973, requesting comments on several aspects of segregated ballast, including locating this ballast in double bottoms. These comments were for anticipated rulemakings, pursuant to the Ports and Waterways Safety Act of 1972. The ANPRM was not limited to Alaskan waters.

Subsequently, on January 8, 1976, the Coast Guard published rules in 41 FR 1479 requiring new tankers over 70,000 deadweight tons (DWT) in domestic trade to have segregated ballast tanks (SBT) located to protect a portion of the exposed sides and/or bottom of cargo tanks. The precise location of the SBT was at the owner's discretion; locating SBT along the bottom was not exclusively mandated since side protection is also desirable. This requirement was extended to new U.S. tankers over 70,000 DWT in foreign trade and to new foreign tankers over 70,000 DWT in U.S. waters by rules published in 41 FR 54177 on December 13, 1976. Mandatory protective location of SBT was further extended to all new tankers over 20,000 DWT carrying crude oil and all new tankers over 30,000 DWT carrying refined products by rules published in 45 FR 43707 on June 30, 1980. These rules implemented the international agreements reached at the 1978 Tanker Safety and Pollution Prevention Conference.

Senator STEVENS. And lastly, you were in Juneau as the Seventeenth Coast Guard District Commander at that time, were you not?

Admiral YOST. I was the Chief of Staff at that time, sir.

Senator STEVENS. Chief of Staff at that time.

Admiral YOST. Yes. Admiral Jack Hayes was the District Commander, as you remember.

Senator STEVENS. I still believe that the Coast Guard's position was correct at that time.

In terms of this other Exxon vessel that lost its power going towards Puget Sound—I do not like these questions that deal with a what if type of thing, but in terms of this transit out of our sound, Prince William Sound, after the tug stops at Rocky Point and the vessels are under the control just of a person licensed for pilotage in that area, what would be the situation if power was lost on one of these vessels at that point?

Admiral YOST. Well, of course, now I have put a requirement for those tugs to follow on out to Hinchinbrook. That is temporary, until we find out what we really want there after the spill gets cleaned up and we have a chance to talk to this committee and others. But in a normal circumstance, that vessel would have only its anchor to save it from going aground. As you know, that is an area of mountain peaks. It is very deep and it shoals up very rapidly. There would probably be some areas where an anchor would not do a lot of good. There would be some areas where an anchor would bring the ship around.

Senator STEVENS. That is what intrigued me about the Shetlands plan that I related to you this morning that required four tugs as long as it is within the confines of the closed water. And they require them until they get to open sea. Those tugs were discontinued before the Hinchinbrook entrance because of the danger to the pilots, as I understand it, and to the tugs themselves going out through Hinchinbrook.

Well, I look forward to your study. I think we have to find some way to protect not only against what we have had here, but the other contingency that was demonstrated. There was an Exxon vessel aground in Hawaii. There was an Exxon vessel without power on the way to Puget Sound, and this one went on the rocks—all in the period of about six weeks.

Admiral YOST. It is certainly very frightening. In the case of the vessel that was without power, the *Exxon Philadelphia*, within seconds of that happening, the district commander was on the phone to me telling me that he was very worried about that. He had two Navy destroyers underway and two or three Coast Guard cutters underway. Everything that would float was underway in that direction. We were very fortunate that the wind was off shore. I have sailed that area a lot and most of the time the wind is not off shore. Had that been blowing a gale on shore, and there were no vessels available to get a line on her, and had she not been able to get her engines back up, we could have had a problem. I do not know how you obviate this kind of thing; or what you do throughout the world to keep vessels from going aground.

Senator STEVENS. Thank you.

Senator BREAUX. Admiral Yost, you were also commander of the Eighth District down in New Orleans and did a superb job during your period down there. The situation on the Mississippi River, which is far less vulnerable because it is levied off on both sides and the bottom of the river is very muddy and soft and there are no reefs, but oil that is being taken down the river from Baton Rouge, for instance, has a pilot on that ship running the ship from Baton Rouge to New Orleans. A second pilot gets on in New Orleans and brings it down to Pilot Town at the mouth of the river, and then yet another pilot takes it out to 20 or so miles in the middle of the Gulf. Here in Prince William Sound, which is a lot more difficult, from the standpoint of navigation, I would imagine because while it is a single channel but there are no levies on the sides, did not have a state pilot on board. I guess he was operating in state waters. Why don't we have a regulation or a rule that requires a pilot to take that ship from the Port of Valdez out into open waters, someone who does it every day?

Admiral YOST. We could have, and we did have. But, when we did have such a regulation, there was a lot of objection from the pilots because of the very rough weather at Hinchinbrook. It is a very open roadstead. It is a roadstead that "even your children could drive a ship through." We lost a pilot boat there. We almost lost some pilots. The pilots petitioned not to do that anymore. They wanted to get off at Bligh or Rocky Point. The requirement was changed to accommodate that.

I think we need to relook at that. Senator Stevens mentioned that at the Shetlands, they take pilots on and off with helicopters. We talked about doing that when we put in this system at Prince William Sound.

All those things need to be talked about, the cost weighed and the danger weighed. It is not an easy thing, to be even-handed about that, when you are in the middle of a national disaster. Now, my response is, let's make them do it; let's have double bottoms, double hulls, double power plants, double screws, double pilots. Let's do everything.

Senator BREAUX. Sober captains.

Admiral YOST. Sober captains. All of those things that seem to be advisable at this time. I wonder what they will look like six or eight months from now when the disaster looks a little better.

I think sober skippers is one that will probably last the course.

Senator BREAUX. I think it will. Vessel traffic system, the VTS system, it is mandatory in Prince William Sound. It did not work this time. A lot of places it is voluntary. A lot of places like New Orleans, it has been eliminated, where we have a lot more traffic. And you are very familiar with that area down there.

How safe is the New Orleans situation when you compare the number of ships that are navigating the Mississippi River on a daily basis, without a vessel traffic system, safety system?

Admiral YOST. Well, of course, the Mississippi River is a port that is 300 and some miles long and about 100 yards wide. It is very narrow. As you know, it is the busiest port in the United States; ships pass routinely in there very close to each other. This never happens in Prince William Sound; we do not allow it. Ships in Prince William Sound, in the narrow area, are under radar surveillance. For ships in New Orleans, there is no radar surveillance; there never has been.

Senator BREAUX. What is the comparison of the distance separating the ships in Prince William Sound navigation system with ships carrying crude oil in the Mississippi River?

Admiral YOST. Well, I would say in Prince William Sound, we measure it in miles; in the Mississippi, we measure it in feet.

Senator BREAUX. And in the Mississippi, you have no VTS.

Admiral YOST. That is right.

Senator BREAUX. How dangerous is that situation from a Coast Guard standpoint?

Admiral YOST. Well, it is a dangerous situation because you have a lot of traffic and you have a lot of hazardous cargoes. You do have collisions, certainly not routinely, but neither are they a cause celebre in the Mississippi River. You do have groundings in the Mississippi River. Those are taken in stride; you are prepared for them; you know how to handle them.

In Prince William Sound, we had never had a collision. There are never two ships even allowed in the narrows at the same time. That narrows is probably three times as wide as the Mississippi River, and, yet, we do not allow two ships in there, let alone two ships that are going to pass.

Senator BREAUX. What is the speed, Senator Stevens asked, with regard to the ships navigating the Mississippi on their way out?

Admiral YOST. Oh, I think the ships in the Mississippi would routinely be making six, seven, eight, nine knots in the straight areas; in the little open areas, faster than that.

Senator BREAUX. And in Prince William Sound?

Admiral YOST. In Prince William Sound, they are probably doing six to eight knots as they come through the narrows; they need good steerage way. We did a lot of testing to find out how slow they could go and still, have good steering. They are making pretty good speed when they get out to Rocky Point and beyond. They go up to 12, 14 knots.

Senator BREAUX. Didn't we have two ships grounded in the Mississippi just a couple of weeks ago?

Admiral YOST. I would not be surprised; I would be amazed if we did not.

Senator BREAUX. Frightened of asking these questions.

Admiral YOST. But, again, it is soft bottom. You are running maximum draft depending on the river height, which goes up and down. You have got professional pilots who call those as close as they can, and it works all right. We very, very seldom have a grounding in the Mississippi that spills any oil.

Senator BREAUX. If you——

Senator STEVENS. Could I interrupt?

Senator BREAUX. Certainly.

Senator STEVENS. Just one thing to make sure that there is not a misunderstanding about the Coast Guard function and the radar. You know, this happened right after midnight. You change shifts at midnight. And when I was there, I was told that this young man that was on duty was maintaining his communication with the captain, and the captain indicated he would call him back.

When the captain did not call him back after a period of time, he got up, after having just come on shift, and changed the reels; they are required to keep a recording of all the communications on a 24-hour basis. So that, actually, the only interruption there, in terms of watching the radar, was when he was performing a routine function, because the captain never called him back.

I do not think we ought to look at this radar and imply that the radar system failed. My suggestions for additional radar are not made on the basis that, from my own personal examination, that that radar system failed, but because a redundancy might have given us a little bit of additional protection.

Admiral YOST. It would have. We did not have good radar coverage outside of the narrows. The radar coverage goes down to about

Bligh Island. We do not have any beyond that. If we want radar coverage in that area, we need to put in additional radars.

Now, if we are going to upgrade VTS's, we would probably want to look at something other than radar. There is state of the art available that may be much better than radar and TV cameras. If we are going to redo something, we probably will redo it with state of the art technology.

Radar is a good system, but there are other systems. For instance, Loran Cretransmission and other systems can give you better positions in all kinds of weather and would not be limited by radar ranges.

Senator BREAUX. You guys are frightening the hell out of me. I want to tell you about New Orleans; I am really very concerned about it, and you know that area. Captain Klotz, do you have anything to add? I mean, we got a lot more ships, a lot more traffic, fog conditions, narrow channel, and no radar. Senator Stevens is trying to improve his radar; we do not even have one.

Senator STEVENS. Of course, the captains down there do not drink, either, do they?

Captain KLOTZ. Not in Louisiana, no, sir.

Admiral YOST. Captain Klotz has a chart that he brought with him, is that right?

Captain KLOTZ. Yes, I do.

Admiral YOST. Would you like to give him three or four minutes?

Senator BREAUX. I think it would be helpful to take a look at it and you can go ahead and tell me, while he is putting the chart up, what is the situation down there.

Captain KLOTZ. You do have a situation where vessels meet each other around bends, blindly. It would be very helpful for them to know what is coming around the bend. Some sort of communication or advisory, I'm sure, would be helpful.

Senator STEVENS. Turn it over.

Senator BREAUX. Yes, it is upside-down, unless the Gulf is to the north of us.

Captain KLOTZ. It is a pleasure to be here to talk about Louisiana and the Mississippi River. I brought this chart because the port of Louisiana and the southeast Louisiana is a unique area. It is a very complex area.

If we look at the Mississippi River, which starts from the Gulf of Mexico, it goes up, it is 90 miles to New Orleans, and a total of 239 miles to Baton Rouge, all navigable by deep-water vessels.

Senator LOTT. I would like the record to show that 90 miles of that is actually under Mississippi.

Senator BREAUX. But not for Mississippi.

Senator LOTT. No, that is right. All that part, the first part of that chart is under Mississippi. Hancock County, Mississippi. Is that right, Captain?

Captain KLOTZ. That is right. While we are being precise, there is another 20 miles where a vessel would come in through the southwest pass before it starts on that pass. That 20 miles would be added to the 90 miles to New Orleans and 239 miles to Baton Rouge.

The area is complex. You have the intercoastal waterway, which brings barge traffic along the Gulf Coast; it enters the Mississippi in the vicinity of New Orleans. It moves in the Mississippi as part of the intercoastal waterway and then continues on in the Venice area.

In the mouth of the Mississippi, we have many offshore oil investment vessels. There is a lot of congestion. The fishing vessels and offshore supply-type vessels down in the Venice area, make a very busy area.

Totally surrounding the whole bottom part of this chart is wetlands, which is a very sensitive area. You can see that this is our oyster bed area, our primary shellfish area, and our shrimp. We also have endangered species here, the brown pelican. On the barrier islands, such as we have sea turtles, and we have geese wintering areas here. This whole wetlands is a very sensitive area. We must be very careful to protect it. We are very sensitive to that, in our contingency plans.

The greater port of New Orleans—and I am referring to the whole southeast part of Louisiana that is here on this chart—is one of the busiest ports in the United States. Annually, 3,600 deep-draft vessels arrive—1,700 of these are tank vessels; 20,000 barges transverse the area.

Daily, we have six tank vessels arrive and 70 barges transporting oil within the Mississippi. They transport 380 million barrels of oil, of which 249 million barrels are crude oil.

Senator STEVENS. How large are the tankers?

Captain KLOTZ. Sir, the tank ships that arrive in New Orleans are between 300,000 and 600,000 barrels. This is less than half the size of the *Exxon Valdez.* The barges are typically 20,000, some ranging up to 200,000 barrels. As Admiral Yost said a few minutes ago, the bottom in this area is basically soft. We routinely have groundings without damage. I think we have to be concerned about collisions in this area more than the groundings.

Down here 18 miles offshore, is the Louisiana offshore port. Tankers arrive there without having to transverse the inland waters of the United States. I think this is a very important advantage of the LOOP.

Tankers approaching the LOOP arrive through the open gulf. They do not have to transverse shore waters. About 248 tankers per year arrive at the LOOP. The average size is about the same size as the *Exxon Valdez.* Some of the larger ones carry up to 3 million barrels, approximately three times the size of the *Exxon Valdez.*

In this general area are 288 bulk liquid transfer facilities, which conduct 18,000 transfers per year. They transfer approximately a million gallons of oil per day. They are located primarily between Belle Chase, and Baton Rouge.

The facilities are regulated by the Coast Guard. They are all required to have operations manuals, containment equipment available, and a push-and-clean-them contractor available. The Coast Guard inspect these facilities.

Also, in this area are 26,000 crude oil wells and 14,000 natural gas wells scattered along the entire coast. They all pump oil into both pipelines and storage facilities.

In this area and worldwide, of course, the Coast Guard maintains a complete aids to navigation system. Of interest, as far as aids to navigation in the port of New Orleans, is Algers Point, where we have a traffic light which is turned on in times of higher water. The light is manned by a licensed pilot, and the individual manning it has the authority to establish one-way traffic. He can stop traffic, one way, going around the Point.

The captain of the port monitors vessels entering the port. Each vessel is required to give 24-hour notice before entering port. We check, through our marine information system, and determine that the vessel has proper documents and no especially hazardous conditions. If it does, we either put the vessel in restriction or deny it entry to port.

The Coast Guard, in the New Orleans area does harbor patrols, both by vessel and by vehicle. We look for things such as barge break-aways, pollution incidents, and unsafe conditions along the port. The Lower Mississippi River Advisory Committee, established in that area, provides general safety information to the Coast Guard district commander. At my level, I am a member of the New Orleans Port Safety Council, which is made up of a group of pilots, representatives of shippers, dock people, and people at the working level. We look at safety issues throughout the river and in the port.

The United States is signatory to SOLAS. We have all the SOLAS regulations incorporated into our federal regulations. These provide standards for vessels that come into port, to make sure they meet at least a minimum standard.

We have the navigation safety regulations which require what I like to call a good, common sense approach to seamanship. Vessels have to have a qualified helmsman; they have to test their steering and propulsion equipment; they have to have charts on board; they have to maintain their charts; they have to have, on the large tankers, two radars, one of which has automatic plotting.

Foreign tank vessels—most of the vessels entering the New Orleans area are foreign—are inspected by the Coast Guard annually to make sure they comply with all these rules. And, of course, all major vessels coming up the Mississippi River are required to have a licensed pilot on board.

The captain of the port has authority to issue an order to restrict vessels from coming into the area if they do not have their proper certificates or they have some known hazard on board. Last year, the captain of the port of New Orleans issued 214 such orders.

During 1988, we had 600 spills reported to us which we responded to and investigated. Four of these were major, major being defined as over 240 barrels for inland. The four major spills amounted to 26,000 barrels being spilled. The other 596 incidents that we investigated amounted to 2,000 barrels being spilled. The spillage for 1988 amounts to 7/1000 of 1 percent of the oil transported within the Mississippi River system.

Of the four major spills, one occurred just up-river from New Orleans. A tank vessel struck something on the bottom of the river—it was probably an anchor. It sliced open one of its tanks and spilled 23,000 barrels. The second spill occurred during Hurricane Florence, right down here in the Mississippi River gulf outlet. A barge was blown up on the jetties and spilled about 1,500 barrels.

North of New Orleans a vessel at a pier was struck by a barge and opened up the side. It spilled about 1,000 barrels of number-six oil. The fourth spill was the smallest major spill. It was 240 barrels, which just qualified as a major spill. It occurred in Baton Rouge when a tankerman overflowed a tank barge. The weather was very bad, and he had gone in to keep warm.

Of course, the captain of the port is the federal on-scene coordinator for any oil spills. We filed the national contingency plan—I do not know how much you want me to talk about that; I suspect most people are aware of that.

Senator BREAUX. Let me get into some of the questions, Captain. I think that has been an excellent briefing. What type of a contingency plan do we have along the Mississippi River for spills? We have had some criticism about the contingency plan that was in place in Alaska. What type of contingency plan do you have for the river, and tell us how it is working.

Captain KLOTZ. Well, we think it is working very well. We had 600 spills, so you can see we test our plan quite frequently. That is almost two spills a day. We exercise that plan often. We exercise the equipment often; we exercise the response community often, in real-life spills. Most of these are very small, but, still, we exercise our equipment and our communications. I think we have a very well-oiled team. People know each other, they work together——

Senator BREAUX. I guess so, with 600 spills a day, I mean, a year. That is pretty well-oiled.

Captain KLOTZ. I feel our plan is a living, working plan.

Senator BREAUX. Are you trying to clean them up on the major spills or do you let the river just flush it out into the Gulf or is it a containment operation or is it a skimming operation?

Captain KLOTZ. The Mississippi River is actually very forgiving of oil that is spilled. The tanker that I told you spilled the million gallons, we were all absolutely amazed by this. It was a heavy oil, slightly more dense than water, and we never found a trace of it. This happened last February.

We have been doing sampling, the state of Louisiana has been doing sampling, all down through the river, out into the marshlands. We have tried to find a trace of that oil, and we have not found it. The river digested it, so to say.

Senator BREAUX. You are telling me you lost a million gallons of heavy oil and you cannot find where it went?

Captain KLOTZ. Yes, sir.

Senator BREAUX. Some would argue that it is still somewhere in the river bottom and we drink the water from the river.

Captain KLOTZ. Sir, that is very possible. The waterworks intakes were notified. They have conducted a very extensive testing program. Their levels never went up. We never found a trace of it. This was during a period of very low water in the Mississippi.

At that time, there was a million gallons of water per second that passed through New Orleans in the Mississippi River. And over a period of time, that is a lot of water to mix with. The turbulence churns the oil up; it helps it weather; it dissipates it. I think the Mississippi River is somewhat unique in that it does dissipate an oil spill.

Senator STEVENS. If the chairman would yield right there, I do not know if you know, but the oceanographers tell us that Prince

William Sound discharges 20 percent more fresh water annually than the Mississippi right there. Just as an incidental fact.

And something I would ask is, is the cooperative plan that you have in effect down there, has it ever been triggered? Have the participants in the plan ever had to come in and assist you on a spill?

Captain KLOTZ. You mean like convening the regional response team?

Senator STEVENS. I understand there is an industry cooperative plan down there in your area, and I wonder if it has ever been triggered, to your knowledge?

Captain KLOTZ. Yes, sir. I think you are referring to the Clean Gulf Cooperative.

Senator STEVENS. Yes, that is right.

Captain KLOTZ. They have been, yes. I have not had to direct it as the captain of the port. The member companies have used their equipment and used their facilities to clean up.

Senator STEVENS. But you were the on scene coordinator for the federal government, were you?

Captain KLOTZ. Yes, sir.

Senator STEVENS. And was there cooperation between the different entities of the industry?

Captain KLOTZ. Yes, sir. We have a very good working relationship there.

Senator STEVENS. Thank you.

Senator BREAUX. Captain, thank you very much.

Captain KLOTZ. Yes, sir, thank you.

Admiral YOST. Mr. Chairman, I wonder if I could make an observation——

Senator BREAUX. Admiral.

Admiral YOST. —on double bottoms after this briefing. I was just thinking, if I lived in Prince William Sound, I think I would want all the tankers to have double bottoms. If I lived along the Mississippi, I would not want double bottoms; I would want side protection. And, unfortunately, those tankers call at both places on the ends of their voyage, or, at least, they call at Los Angeles and Prince William Sound.

If I were living in Los Angeles, because of the collision problem, I would want double sides. If I was living in Prince William Sound, there is no collision problem; it is a grounding problem. I would want double bottoms, and it is really hard to fit both those in.

Senator BREAUX. Well, I think your observations, as well as the captain on behalf of the port facilities down in New Orleans, has been very, very helpful and also a little frightening as far as the amount of traffic we have down there without a VTS system in place. There is a lot of work that needs to be done. Gentlemen, we thank you very much. Admiral and your team, you have been here all day and we appreciate your extra special effort, considering the times.

I would like to welcome up another group that we would like to have take their seat at the witness table. Captain Mark Delesdernier and Captain Bob Herring. Captain Delesdernier is president of the Crescent River Port Pilots Association in Louisiana. Captain

Bob Herring is secretary-treasurer of the Southwest Alaska Pilots. Pleased to have you with us.

Okay, Mr. Delesdernier, we are delighted to have you appear before the committee. If you could summarize your testimony, we would be pleased to proceed to ask you some questions.

STATEMENT OF CAPT. MARK DELESDERNIER, JR., PRESIDENT, CRESCENT RIVER PORT PILOTS ASSOCIATION, BELLE CHASE, LA

Mr. DELESDERNIER. Mr. Chairman, we are delighted to be here and we hope that some of the information that will be presented will be helpful in making the marine industry safer.

For the benefit of the committee, I would like to say that I am president of the Crescent Port Pilots, which is one of the largest pilot associations in the United States. I am third-generation pilot, I have been on the river as captain since I was 13 years old. I have 40 years experience on the Mississippi and 24 years as a master pilot. I have served 11 years in the Board of Pilot Commissioners, which is training and testing of pilots, and seven years as its president.

I would like to say that there is a lot more that is unique about the Mississippi River than surfaced here today. My association operates in Zone 2, the ball pilots in Zone 1, which is approximately 22 miles. My route is 100 miles on the river and approximately 35 miles in the Mississippi River gulf outlet.

In 1982, we handled, we had movement of 22,000 vessels in just Zone 2, and in, probably, this year, it will be about 15,000. We have brought in tankers up to 243,000 tons for taking bunkers that have discharged at LOOP, and we are handling about 40 million tons of hazardous cargo a year.

One of the things that is very unique about the Mississippi River is that our Coast Guard regulations say that, when you are in a narrow channel, you keep to your right and pass port to port. In pilot terms, we say "a one-whistle passage."

Of the three zones in the Mississippi River, Zone 1 does comply with the port-to-port passage. But Zone 2 and Zone 3 have a point and bend system. Now, the point and bend system may not mean much to a lot, but you have to realize that in the springtime we have currents of up to six knots, so that a vessel has to make probably 15 knots with the current to have adequate steerage. And the down-bound vessel, which has less rudder power than the up-bound vessel, has to come down into the bend, which gives us a greater turning radius. And the up-bound vessel has to come up under the point, which has greater steering ability because it is stemming the current.

So, it is frightening for foreign captains who come into the Mississippi River to have a pilot come aboard at Pilot Town and, 10 or 12 miles later, pass a ship starboard to starboard at Fort Jackson, and "My God, what are you doing? You are making a mistake." Maybe some time during the year, we could stick to the right-hand rule and pass port to port. But you cannot have a springtime system and a fall system. So therefore we have to set up to pass port to port and starboard to starboard throughout an entire route.

Before we went to the 45-foot channel, it—we had more crossing than we do today because now we are more restricted to deep water and we do not make as many crossings. At one time, we crossed the river 17 times and 90 miles from port passages to starboard passages. You can imagine how confusing that is to someone who is not familiar with the river system.

I wanted to make those points before getting into the summary of the report. In my report, item 1, we talk about contingency plans and we break contingency plans down into various categories. And surely these plans have to be developed; they are not in place. And we speak of groundings, groundings and spills; groundings, spills with toxic substance; collisions, collisions and spills; collisions and spills with toxic substance or cargoes; and collision and fire; and collision, fire and toxic gas.

I would like to point out that we are handling at least two Soviet Union anhydrous ammonia gas tankers a month that carry 58,000 tons of ammonia, and you can relate that to more than 1,000 railcars of ammonia. You can imagine what would happen if that ship was in a collision and those tanks were ruptured and the wind, if the wind was blowing to a heavily populated area, particularly New Orleans, there would be no one escaping. You could kill a quarter of a million people.

Now, hopefully, this will never happen, and I do not know what type of contingency plan would work if something like this did happen. But I would like the committee, in examining all of the options, to think about the fact that, some day, there may have to be something in a contingency plan where you have to sacrifice the vessel.

I understand that, in the case of the Valdez incident, that you still had 75 percent of the oil on board the vessel, and this may have not been what we would like to do, because it may have not been beneficial. However, several years ago, off of Japan, a tanker had a fire and toxic gases, and the vessel had to be sunk. They could not put the fire out; they could not get close to it.

It may come a time; somewhere in the water that is under the control of the Coast Guard or the Corps of Engineers where that may have to be considered. And I am just making this as a point because I have heard it several times from other people that were very experienced in this area.

Louisiana needs a plan developed with the role of various agencies being very well laid-out, which, as far as the U.S. agencies, would be the Coast Guard and the Corps, and the state agencies, we have looked at state police because of their communication network. And in the local agencies, it is the cities, counties, or the sheriffs and police, fire department, governmental bodies, hospitals, water purification plants, should all be part of this plan.

The river should be zoned, and each zone, it would state what jurisdiction you are in, whether it be by parish or county or by a particular mileage zone. Another thing that is needed is compass roses so that you can tell the agencies immediately what way the wind is blowing. They can have their evacuation routes set out and you will know exactly what agencies have to be contacted in that area on a minute's notice.

The next item I would like to touch on is the vessel traffic system. The Mississippi River did have a voluntary system that was scrapped because of Coast Guard funds. And we are back to the traditional system, which is control by bridge to bridge radio.

I would like to say that the VTS, the possibility of reinstating VTS should be evaluated, but if the system is reinstalled or reinstated, you have to look at whether it would be a voluntary system or a mandatory system. And, surely, if you are going to have any kind of system, it would have to have full radar coverage to be effective.

One of the problems that we noticed with the voluntary system that has been disbanded is that it was a problem with Coast Guard personnel manning a system and getting sufficient local knowledge to be experts in the area that they were controlling because of the fact that the Coast Guard has such a turnover in transfers. So, therefore, if a system is to be effective, whether it be a voluntary or a mandatory system, you definitely should have the private sector brought in where you would have controllers that would continue on the job for a long time, because the Mississippi River is very complex and it would take a man several years to have all of the skills necessary to handle the system.

The next thing that I want to mention has been floundering around for about eight years. And it is VHF channel 22 Alpha. If the United States does not see fit to comply with the international regulations and 22 Alpha being a duplex channel was split, and one side was given to the—channel 22 was split, one side was given to the Coast Guard, which they call 22 Alpha, which receives and transmits on 157.1 MHz, and the other side of the channel was given to ship stations, which is 161.7 MHz, and it is impossible to recover from the FCC the other side of the channel. I do not want it to be taken lightly as to how important it is that the Coast Guard find the new channel to be used for emergency broadcast.

I will cite you an example. Two weeks ago, with a chemical tanker losing all power on the Mississippi River, including all electrical power, steering, main engines, the only thing they had left was the anchors, the pilot had a hand-held radio, he had channel 16. He contacted Coast Guard base New Orleans and Coast Guard base New Orleans insisted that he switch to 22 Alpha. No one had 22 Alpha.

We handle—about 85 percent of our ships are foreign, and of the 85 percent of those ships, 80 percent of them do not have 22 Alpha capabilities. The only way they would have 22 Alpha capability is if their equipment was purchased in the U.S. This is very important, Mr. Chairman, that the committee look at this, and we will do whatever we can to help the Coast Guard in this matter.

My fourth item is speaking about license requirements, and all I care to say here is that we should look at our licensing process, possibly the number of trips for familiarization should be increased. And we have been terribly upset with the grandfathering in, by just making trips to captains on towing vessels who only made a certain amount of trips on barges of 10,000 tons or less. We need to carefully look at this and re-evaluate it.

I am proud to say that item number 5, the drug and alcohol policy, in 1984, the Crescent River Pilots took a very strong look at alcohol problems and started to develop a program. We did not follow anyone in this country, and we developed the first and most comprehensive drug and alcohol testing program that was in existence in any mode of transportation.

The Coast Guard system is just coming on the line and we have made our, we have made our drug policy and alcohol policy available to them for some time now. It was great to see a group of professionals that agree to mandatory, random testing without threatening to take us to court for violating their rights. The pilots unanimously agreed to this. The system is in place and it is working very well.

There is one thing I may note, at the bottom of item 5, is that two cases in the last couple of years where the Crescent River Port Pilots decommissioned state pilots but they continued to hold their federal license. In one instance, the pilot's license expired; the five-year period was up and the license expired. In another instance, I think, the license was renewed while we were litigating the case.

The item number 6, we speak about jurisdiction. Recently, we had a Russian ship, the *Konab, Marshall Konab* ground at Pilot Town and she was grounded for 26 days. And we had a feeling that maybe there is not even teeth in the law for the Corps of Engineers and the Coast Guard that they can deal effectively with foreign flag vessels, particularly Soviet Union vessels.

We spoke, we have here in items 1 through 5, various type things that are looked at, when the Coast Guard or the Corps is going to take action, and in the groundings, usually, it is navigational hazard or a disruption to commerce.

Groundings are quite common. We have, the channel that is now 45 feet and it is not uncommon for this channel to change two or three feet daily. We just recently lost our draft from 45 feet to 40 feet in just a matter of days. Some of the problem was caused by deflecting the water by the grounded vessel.

Mr. Chairman, basically, that is the summary of my report and I am open for questions.

Senator **Breaux**. Thank you very much. Let us take the testimony of Captain Bob Herring from Alaska now. Captain Herring.

STATEMENT OF CAPT. ROBERT HERRING, SECRETARY TREASURER, SOUTHWEST ALASKA PILOTS ASSOCIATION, HOMER, AK

Captain **Herring**. Thank you for inviting me here. I am Robert Herring from Homer, Alaska.

Senator **Stevens**. Pull that mike towards you, will you, Bob?

Captain **Herring**. Okay. My name is Robert Herring and I am from Homer, Alaska. I hold an unlimited master's license as well as extensive pilot endorsements. My background includes many years as deck officer and master of ocean-going vessels. I have been an active pilot in southwest Alaska since 1971, including 12 years with the Valdez Alaska Oil Terminal and Prince William Sound tankers.

I believe the concerns here today are for safe, efficient oil tanker operation at the Alyeska terminal and transitting of Prince William Sound. Foremost to me is the importance of communication among all parties involved in the loading and transit of all vessels in this trade. Regularly scheduled meetings of representatives from these groups should include the terminal supervisor, the U.S. Coast Guard, steamship agents, Crowley Towing Company, environmental agencies, and Southwest Alaska Pilots.

The grounding of the *Exxon Valdez,* a vessel I have piloted many times, has brought about many changes and there continues to be much speculation as to how to guard against such casualties happening again. There have been marine accidents and losses down through the ages, as in all forms of transportation and industry, and there always will be. However, the frequency and the severity of these tragic occurrences can certainly be greatly lessened.

Southwest Pilots have submitted a list of recommendations to this committee, and I have expanded these considerably. I am available for discussion of these recommendations, as are my fellow pilots, and I give you a quick list of concerns that we feel to be extremely important. I will go into detail of any of these at any time I am asked to, and here they are.

Number 1 is recruiting and experience and training of new pilots. I think I will just read my rough list through, and then if you have any questions concerning any one in particular, why, fire away.

Stations for storage of pollution gear in the Prince William Sound area. Priority for loaded outbound tankers over inbound ships in ballast. Traffic control, scheduling the ETAs, arrivals, for Prince William Sound and off the loading berth to reduce traffic congestion. Expanded and efficient radio communication between terminal, pilots and tankers. Tugs to carry pollution gear. Weather restrictions enforced, such as wind and visibility. Call-out on the ships; the crews are usually given a half-an-hour notice to get their warm clothes on and get out on deck, so you could have more timely availability of the crews for berthing or any other operation of the ship.

More dockside line-handlers to expedite berthing. The ships' crews to be increased for quicker response to tying up tugs, to maintain lookouts, and have proper rest periods. And ice pilots to conn vessels through the ice whenever there is ice present.

SWAPA support, SWAPA being Southwest Alaska Pilots. Support for the cost of increased boats and recruiting. Terminal housing for pilots. More concern with a safe, clean operation and less with increased costs. If costs go up, so does the price of gasoline.

Pilots are most concerned with a safe operation. Our livelihood and licenses depend on it, as well as our obligation to our fellow Alaskans. We urge all parties to heed our advice and not the dictates of saving a few dollars. We have a vast amount of experience and we are at your service. Thank you for inviting me to testify and I will be happy to answer any questions.

Senator **Breaux**. Thank you very much, Captain. Captain Delesdernier, what you have told me really is extremely disturbing in the sense that you have testified today that we have got some federal pilots that have had their state pilots license revoked, but are still federal pilots. You have told me that 85 percent of the vessels that come into New Orleans and the river are foreign vessels, and that 80 percent of those vessels do not even have the capacity to receive emergency broadcast from the Coast Guard.

You have heard testimony that we have no vessel traffic safety system anymore with radar, because it has been yanked by the Coast Guard because of insufficient funding by the Congress. We have 20,000 vessels a year, some years, with some super-tankers coming up that river and a very narrow channel.

Now, we have got a bomb waiting to go off in that river system. I mean, is it not just a bomb waiting to go off before we have a major thing like we had in Alaska?

Captain **Delesdernier**. Well, Mr. Chairman, we are always concerned about hurting commerce by our recommendations and things that we do. But I can say that we have been very fortunate. We have been very lucky so far.

Senator **Breaux**. Well, the question is and my concern is, how long can we depend on luck? I mean, is it proper for the government to say, we are going to count on being lucky in the Mississippi River system?

And one of the things that you pointed out, along with Admiral Yost, federal pilots that have had their license yanked and are still operating as a federal pilot, 85 percent of the foreign vessels, 80 percent of them do not have even the capacity to listen to an emergency broadcast?

Captain **Delesdernier**. That is correct.

Senator **Breaux**. That is unbelievable. How would they get their information if there is a big problem, if they do not—if the Coast Guard is broadcasting on channel 22 Alpha and they do not have channel 22 Alpha, how are they going to know that something is wrong?

Captain **Delesdernier**. The vessels miss the emergency weather broadcasts, they miss the safety broadcasts. There is just no way to know, I mean, we do monitor channel 16, and even if the Coast Guard says that there is going to be broadcast which is announced on 16, but go to channel 22 Alpha, we do not have that capability.

This has been brought to the attention of the Coast Guard and back as far as when Mark Fowler was chairman of the FCC and I was always told it was going to take an act of Congress to change it and maybe that is what we have to do now.

Senator **Breaux**. Well, I think we have got the most dangerous river system from a traffic standpoint, probably, certainly, in the United States, if not anywhere. It just is very disturbing what you have brought to the committee's attention. And I thank you for it.

Senator Stevens, any questions?

Senator **Stevens**. No, Mr. Chairman, I have known Captain Herring for some time, and I appreciate your taking the time to come in, Bob. We had also received in my office a communication from Captain Ed Murphy, who is the president of the Southwest Alaska Pilots Association. Mr. Chairman, I would like to have it printed in the record.

It was the source of the recommendations that I have made in the legislation that I introduced yesterday with regard to the increased VTS equipment and radar on Naked Island and the lighthouse structure on Bligh reef and the various actions regarding transitting tankers. They basically came from Captain Herring's organization. And I found all of their recommendations to be valid and I think the Coast Guard will, too. So I thank you very much for your cooperation.

Senator **Breaux**. Without objection, that will be made part of our record.

Both of you have made a major contribution to helping us understand what the situation is. It means we have a lot of work to do. And we thank you for being with us.

Captain **Delesdernier**. Mr. Chairman, may I make one point before leaving?

Senator **Breaux**. Certainly.

Captain **Delesdernier**. I did not have it in my testimony. Two or three days after the Valdez incident, an ex-member of the National Transportation Safety Board on CNN made a statement that the problem with the construction of tankers was that the bridge should be on the bow rather than the stern.

I would like to refute this. I hope it does not go any further. He was talking about having cameras to see what is happening on the foccal head. The ideal situation is a bridge mid-ship on a tanker. However, with problems of fire and safety and other things for the crew, in the case of a real serious problem, then the best situation is to have a stemwinder or the bridge further as far aft as you can locate it on the ship.

Well, I, first of all, want to make a point that, with the container vessels, stacking the containers and protecting them for sea behind the house has created a situation where you have to have the bridge on the bow of the vessels. Not ideal, but it is there.

I would like to say that we are opposed, if any recommendations come out to put the bridge of a tanker on the bow, we are definitely opposed to that. And, also, we would like the Coast Guard, in their meetings in EMCO, IMO, in the future, to look at a problem that is bothering us—and possibly Captain Herring can comment on this—is that they are not extending the bridges on the vessels to the outer perimeter or to the extremity of the breadth of the vessel.

They are cutting them short and, therefore, in the docking and undocking process, you cannot see the sheer streak of the ship and it is causing a problem as far as judgment with vessels of this magnitude of tonnage. And it should be something that is considered in ship construction. And I am sure you have had that happen.

Captain **Herring**. Yes, we call that a bobtail bridge. And a ship weighs 270,000 tons and she is drawing 75 foot of water, why, you have to land her very gently. If she approaches a dock at more than 4 foot a minute, you will probably knock the dock down.

Senator **Breaux**. Wow.

Captain **Herring**. That is a speed that you can hardly even see with your naked eye. So to be removed from a vantage point in looking straight down the ship's side makes the job real touchy. And we have to almost use the Braille system to come in as slow as possible and listen for the crash.

Senator **Breaux**. Helps to be sober.

Captain **Herring**. Well, that would help.

Senator **Stevens**. Are they getting too big? Bob?

Captain **Herring**. Sir?

Senator **Stevens**. Are these ships getting too big to handle with one pilot?

Captain **Herring**. No, we do not have any problem with the larger ships. But these bobtail bridges that my fellow captain here is talking about is typical of industry cutting corners to save a few dollars. And the end result is that it costs them millions just because of saving a few bucks.

Senator **Breaux**. Gentlemen, we thank you very much. Both of you have been very, very helpful. I would like to welcome up for testimony now—we will bring both of these gentlemen up. They can testify separately, but I ask them both to take their seats now.

Mr. Bob Thompson, president of Louisiana Offshore Oil Port of Louisiana, and Mr. Ernie Corrado, president of the American Institute of Merchant Shipping. And, Ernie, you have someone with you, you can introduce for the record. I understand it is Mr. Thomas Wyman.

We welcome you here. Tell us about something that I offered the legislation for about 15 years ago, on the House side. I think Senator Stevens was probably involved in it over here.

STATEMENT OF R.C. THOMPSON, PRESIDENT, LOUISIANA OFFSHORE OIL PORT, NEW ORLEANS, LA

Mr. **Thompson**. Thank you very much. I appreciate the opportunity to address the committee. I will get right to my summary testimony.

The Louisiana Offshore Oil Port is a large crude oil reception facility located approximately 18 miles off the coast of Louisiana in the open waters of the Gulf of Mexico.

We receive oil from tankers at the port and pump it through a large, 48-inch pipeline to our shore storage facilities. We are currently handling about 750,000 barrels per day of crude oil. To put this in perspective, this is about 15 percent of the crude oil imports that are coming into this country.

Senator **Breaux**. How many?

Mr. **Thompson**. 750,000 barrels per day.

Senator **Breaux**. What percentage?

Mr. **Thompson**. It is about 15 percent of crude oil imports into the U.S. Our port was designed and constructed to handle the very large, or the ultra-large crude carriers that are too large to come into the inland U.S. ports. It was recognized, prior to 1974, when the deepwater port was enacted, that the United States was going to need increasing amounts of crude oil. It was also recognized that if deepwater ports were not available to serve the large crude carriers, this oil would be landed in inland ports by increasing the number of small ships in the already congested inland ports.

LOOP was built in major part to minimize the effects of spills associated with crude oil transportation. The law, which this committee helped to craft, contains many detailed requirements in assuring that this objective of preventing and minimizing spills is achieved.

In looking back over eight years of operation, we have been very successful in minimizing the number of spills and the quantity of oil released to the environment. Despite this past good record, we continue to modify our procedures as needed, based on our spill experiences and our training drills.

We place considerable emphasis on training in this area. We conduct drills throughout the year. Two weeks ago, we just completed an annual full-scale drill which entailed our complete response team. In addition to our own people that make up this response team, we had participation by the local federal and state agencies that would be involved with us if we had a major incident. We had 21 participants from the outside agencies at this drill.

Not only do we find that these are good training exercises, but they also help us build a good relationship with these agencies. LOOP has succeeded in minimizing oil spills associated with marine transportation and we believe we have been an environmental success as Congress had intended.

Some of the basic concepts of our port automatically operate to reduce the likelihood of a spill. We are located, as I mentioned, 18 miles offshore and we are located in 110 to 115 feet of water. Therefore, this eliminates the threat of groundings and having to navigate in arid channels. Also, being offshore increases the chances that, if we do have an incident, that we can deal with it before it reaches the onshore, the coast.

Other protective design features are built into the port. The LOOP's safety zone encompasses an area around the port of approximately 36 square miles. The primary purpose of the safety zone is to define an area in which any activity that may directly or indirectly increase the environmental and safety risk associated with port operation may be minimized or prohibited. We maintain a continuous surveillance of this area. We have a 24-hour per day communications and radar watch which is maintained on our offshore platform.

LOOP's vessel traffic controller, which is this communications and radar watch, you could compare him to an air traffic controller at an airport. We have authority over the entire safety zone and restrict access to vessel movement to avoid any potential problems.

The oil is transported from the tanker to the pipeline and then to our storage facility located about 44 miles inland. Our onshore operation center communicates directly with the offshore platform and communicates directly with the tanker. Our people, we also keep people on the tanker, and they communicate routinely with the tanker.

A typical tanker call at our port would involve something as follows. Our vessel traffic controller will make contact with the ship when it is approximately 20 to 25 miles south from the port and give the vessel information about traffic in the area, and also information about coming to berth.

We put two LOOP mooring masters aboard that ship when it reaches the entrance to our safety zone, which is about six to seven miles out from the port. The tanker is then directed to berth with these two LOOP mooring masters guiding the ship, and also from assistance from our platform with the vessel traffic controller, who is getting continual radar readings to our mooring masters on the bridge of the ship.

The tanker is berthed, and the cargo then is discharged. The mooring masters remain on board the ship during the complete discharge. When the discharge is complete, then the mooring masters and the vessel traffic controllers then guide the ship back out to the exit of the safety zone. The vessel traffic controllers, our mooring masters and our cargo transfer supervisors are required to meet rigorous qualifications and standards that are enumerated in the deepwater port U.S. Coast Guard regulations.

I feel very good about the quality of our overall work force. We continue to emphasize safety and training in all areas of our operation. Our drug and alcohol policy prohibits the possession or use of unauthorized drugs and alcohol on company premises. Reporting to work under the influence of alcohol or drugs, of course, is prohibited.

In enforcing this policy, unannounced searches are made of employees, contractors and their personal property on our company premises. These searches are conducted as a deterrent or if there is evidence of a policy violation. Laboratory testing is used as needed to confirm a policy violation. On pre-employment, laboratory drug testing is a part of our routine physical. We make a motor vehicle record check.

We are currently reviewing our policies with the intent of including random drug testing, annual physicals for certain positions in the company, and also periodic motor vehicle record checks.

In summary, the design features of the port, our procedures and qualification requirements, and our policies all work toward preventing spills. While we have not had a major spill at LOOP, we have had, on several occasions, have had to respond to small spills. On each occasion, our response plan was effective in mitigating the impact of that spill.

In making these responses, however, it was apparent that today's available mechanical clean-up equipment has limited effectiveness in the open waters of the Gulf of Mexico. If there is a truly major spill, we are not going to be able to use conventional means alone to respond effectively.

LOOP has considerable oil spill response equipment, which I feel represents the best available technology. But I will be the first to admit that we do not have, and I do not think anybody has, the available capacity to contain and remove truly major spills. This fact was acknowledged in our original environmental impact study and this fact is just as true today.

This leads me to a subject in which we have been actively involved for several years, and that is the subject of dispersants. Dispersants are not a panacea for all oil spills. But dispersants, if used properly, can be an effective tool in mitigating the effects of a spill. Physical containment and recovery are the preferred route. But where this is not possible, many benefits can be realized by dispersing the oil into the water column.

There are problems with the approval process in using dispersants. While a plan was just recently adopted by Region 6 to aid in authorizing the use of dispersants once a spill has occurred, this decision process is very cumbersome and is very time-consuming. My concern is that a decision will be delayed and the opportunity to effectively use dispersants will be lost. I am not optimistic that, if I ask for the approval to use dispersants today, that I could get that approval.

Since 1984, we have been active with various agencies trying to advance the understanding and knowledge on dispersant usage. LOOP is the ideal facility where pre-approval for dispersant use could be granted to the U.S. Coast Guard on-scene coordinator. We have a fixed location. We are located in deep water, which is ideal for dispersing, and we also have personnel on site that we could use for quick response. If there are concerns by the various agencies, we need to deal with those concerns now, not once an incident occurs.

To conclude, I will simply say that we have been thinking about and doing something about spills for a long time. And we are going to continue with these efforts to improve our capabilities. Recent events, however, have shown us that the inconceivable can happen. And LOOP would like to be in a better position to deal with it if it does occur at our facility.

If the dispersant use approval process is not centralized in one person, namely, the U.S. Coast Guard on-scene coordinator, delays in the process could easily shut the narrow time window that you have for effective use of dispersants to mitigate the environmental impact of a major spill.

LOOP has unsuccessfully sought, on the local level, now, for approximately four years, the approval of a dispersant use plan. Although the state of Louisiana has generally favored and supported the plan, no final approval action has been taken by the regional response team of Region 6. Environmental Protection Agency, the Coast Guard, and other representatives on the regional response team need to be encouraged and they need to be given the resources to promptly consider and approve such a plan.

If approval is not promptly issued at the local level, we would hope that this issue could be elevated and resolved here in Washington, if necessary. LOOP is certainly going to continue with its efforts in this area and stands ready to offer any additional support to accomplish this very important pre-approval goal.

This concludes my remarks. Again, I appreciate the opportunity to address the committee, and I will be glad to address any questions that you may have.

[The statement follows:]

STATEMENT OF ROBERT C. THOMPSON
PRESIDENT, LOOP INC.
BEFORE THE
SUBCOMMITTEE ON MERCHANT MARINE
OF THE SENATE COMMITTEE ON
COMMERCE, SCIENCE AND TRANSPORTATION

MAY 10, 1989

Mr. Chairman and Members of the Subcommittee, I am Bob Thompson, President of LOOP INC. and have held that position since 1985. Prior to 1985, I was LOOP's Vice President of Operations. LOOP is an acronym for the Louisiana Offshore Oil Port. LOOP's facility, the only Deepwater Port licensed under the federal Deepwater Port Act of 1974, is a large crude oil reception facility located offshore of Louisiana in the Gulf of Mexico. Oil is received from tankers at the port and pumped through a 48-inch pipeline to on shore storage facilities. Over the past two years, LOOP's average throughput has been about 750,000 barrels per day. Depending on the size and pumping capacity of tankers that we offload, our existing facility can handle up to 1.4 million barrels per day. LOOP is also large in terms of the size of the vessels it can accommodate. We have received oil from tankers as large as 508,000 gross tons in displacement.

In light of recent events, a number of questions have probably arisen, due to LOOP's size, location, and unique design, about what we do and how we operate. I will try to answer most of those questions in this testimony, but if you have others, I will be happy to address them.

We acknowledge at the outset that recent events have led us to begin an intensive review of our program. Although this review is in its preliminary stages, we can tentatively conclude that, while we are doing many things well, there are some problems. We will share some of those problems with this committee.

Let me begin by discussing the background of our facility, why it was built and what its purpose is. Then I will address the questions concerning systems we have in place to prevent oil spills, our capability to respond to spills which do occur, and the problems or limitations we might expect to encounter.

WHY DID WE BUILD LOOP AND WHAT IS ITS PURPOSE?

When we look back to the deliberations that this and other committees held prior to 1974, when the Deepwater Port Act was enacted, the reasons are clear why the Administration, the Congress, and the oil industry thought it desirable to adopt a novel new law to authorize the construction of this new kind of facility outside the territorial limits. First, everyone thought that this new approach was necessary to obtain the benefits to consumers and others of the economies of scale associated with the use of very or ultra large crude carriers to transport foreign crude from distant points of origin.

Second, and many people thought that this reason was even more significant, offshore deepwater ports were considered an important and maybe even necessary new way of minimizing the risks associated with bringing imported crude oil into this country.

At the joint Senate Committee hearings in the summer of 1973, Russel Train, then chairman of the Council on Environmental Quality, summarized the findings of a comprehensive interagency review effort as follows:

> In sum, then, the United States is going to need increasing amounts of imported oil. This oil will be imported in small ships -- at greater risk of oil spills -- if deepwater ports are not available to serve supertankers. The environmental impacts associated with port construction and oil spills can be significantly reduced by the development of far-offshore deepwater ports which will be served by supertankers at locations distant from congested harbors and coastal areas.

This and other similar statements as to the environmental motivations behind the authorization of offshore deepwater ports were confirmed in the original Environmental Impact Statement (EIS) filed as part of the licensing process which led to the Department of Transportation's decision to issue to LOOP a license authorizing it to design, construct, and operate its facility. That statement concluded that:

> expected annual frequencies and volumes of spills would be higher if more, but smaller, tankers were used at existing ports as an alternative to VLCC's at Deepwater Ports such as LOOP.

To further enhance the spill mitigation potential of the facility, the license contains detailed conditions regarding oil spills, methods for avoiding their occurrence, and capabilities for responding to them if avoidance efforts are unsuccessful.

In summary, LOOP was built to take advantage of scale economies and make a profit for its owners, but even more importantly, in the minds of many, to prevent and minimize the effect of spills associated with crude oil transportation. The law, which this committee helped to craft, and the license, which DOT issued, contain many detailed requirements directed towards assuring that this latter objective will be achieved.

HOW SUCCESSFUL HAS LOOP BEEN IN PREVENTING AND MINIMIZING SPILLS?

LOOP's nearly eight years of operating experience show that, although the facility may not have been very successful in generating profits for its owners, it has been highly successful in minimizing the number of spills and quantity of oil released into the environment.

One of the major objectives sought in the licensing of LOOP was to attract large super tankers to the offshore and more isolated Port, and thereby reduce the environmental risks associated with the movements of a larger number of smaller tankers in congested coastal and inland waters. This objective has been achieved, as indicated by the substantial volumes of crude received at the Port annually. The achievement is also indicated in the size of the tankers using the Port. Both of these factors correlate directly with a decrease in near shore vessel traffic and the risks of congestion associated with that traffic.

Another major objective in the licensing of LOOP was to reduce the risk of spills associated with the discharge of the oil at the reception facility. As indicated by the following chart of oil spills at LOOP, the record is good.

LOOP INC. OFFSHORE OIL SPILLS

	NO.	AMOUNT (gallons)
1981	22	725
1982	33	6,034
1983	14	18,497
1984	4	7,986
1985	4	284
1986	4	367
1987	1	3
1988	14	327
1989	2	6

In total, the oil released offshore represents less than .000056% of the oil transported through LOOP.

Despite this record of success, LOOP continues to modify its procedures based on several spill experiences and drills conducted throughout each year. Experience has shown that rapid response is key to oil spill containment and clean-up. Several years ago, we made modifications to our three work vessels that are normally used at the Port for mooring the ships and performing maintenance. These vessels were modified to be capable of making an initial response to a spill. The concept being that these vessels are stationed offshore at the Port and can quickly respond if needed. This has proven beneficial on several different occasions. During the year, we conduct onshore and offshore spill drill training exercises that involve LOOP personnel and contractors. As an example, 14 such drills were conducted in 1988 and to date, 12 such drills have been conducted in 1989. In addition, at intervals of approximately one year, a larger scale drill is also conducted in which the local, state and federal agencies participate. We just completed such a drill two weeks ago. This drill lasted one full day and was followed by a one-half day critique. We had 21 participants from various local,-state and federal agencies. Examples of agency representation were U. S. Coast Guard personnel from Morgan City, New Orleans and Mobile, U. S. Minerals Management Service, Louisiana Department of Environmental Quality, Louisiana Department of Wildlife and Fisheries, Louisiana State University Center for Wetland Resources, and local parish officials. These drills serve as excellent training exercises and help to build good working relationships with the various agencies.

In summary, LOOP has been successful in minimizing oil spills associated with the marine transportation of crude oil and is, in this respect, an environmental success as anticipated by Congress.

WHAT IS LOOP DOING TO REDUCE THE LIKELIHOOD OF SPILLS?

As I have noted, many of the primary features of LOOP's basic design concept operate automatically to reduce the likelihood and impact of spill incidents. The offshore location, in deep water, reduces the threat of groundings and eliminates the perils of navigation in narrow channels. That location, together with the large capacity of the tankers served by the Port, minimizes the dangers of vessel traffic congestion, both at the Port and near shore. Of course, the offshore location also increases the chances that, if a spill does occur, it can be contained or otherwise dealt with before it comes ashore.

In addition to the significant protections offered by our basic concept, the Deepwater Port Act, the Coast Guard's regulations under the Act, and the license which the Department of Transportation issued to LOOP work together to require detailed design and operating conditions directed towards reducing oil spill risks.

Although the protective features incorporated in our Coast Guard approved facility design are too extensive to discuss in detail here, I will summarize some of them.

The Port is located approximately 18 miles offshore in the open waters of the Gulf of Mexico. There are no physical boundaries around the edge of the Port such as docks, channels or other obstructions. The water depth surrounding the Port is 110 feet to 115 feet which, as previously mentioned, assures that ships will not run aground. The water is not too deep, however, for a ship to anchor in an emergency. An area surrounding the Port is defined as the LOOP Safety Zone. The primary purpose of this Safety Zone is to define an area in which any activity that may directly or indirectly increase the environmental and safety risks associated with Port operation may be minimized or prohibited. The Safety Zone encompasses 36 square miles and is made up of three parts: the approach section, the anchorage section, and the terminal section. Navigational marker buoys define the boundaries to the approach and anchorage sections. The distance from the entrance of the Safety Zone to the tanker berth in the terminal section is approximately 6 miles.

Tankers destined for LOOP utilize the LOOP Safety Fairway. This fairway connects to the entrance of LOOP's Safety Zone and extends 63 miles to the south. To lessen the chance of accidents, ships enter and leave United States Gulf Coast ports via safety fairways. The fairways are two miles wide and no offshore drilling rigs or structures are permitted in a fairway. When a tanker is entering or leaving LOOP's Safety Zone, it must do so via the Safety Fairway.

In addition to the restricted Safety Zone, LOOP maintains continuous surveillance of the area. A continuous 24-hour-per-day communications and radar watch is maintained on the LOOP platform. LOOP's vessel traffic controller could be compared to an air traffic controller at an airport. We have authority over the entire Safety Zone and restrict access and vessel movement to avoid potential problems. To assist in this surveillance, LOOP utilizes a radar system which has an S-band, an X-band and a collision avoidance system. Its range is 64 miles. With this system, targets can be selected and designated for specific tracking. The collision avoidance system will automatically track inbound targets and sound an audible alarm if a collision is projected.

The vessel traffic controller also communicates to the vessels in the Port and the vessels in the general area by radio communications. The vessel traffic controller can monitor and communicate over a wide range of marine frequencies from the LOOP platform. In addition, the platform also utilizes a local and long distance telephone system network, telex and telefacsimile systems.

The oil is transported by pipeline from the tanker to our shore storage facility. This pipeline is monitored and controlled by our cargo transfer supervisors from our Operations Center located near our storage site. The Operations Center is staffed by two cargo transfer supervisors around the clock, 365 days per year and utilizes a computer based supervisory control and data acquisition system to assist in the surveillance and control of the complete system. The Operations Center communicates routinely with the tanker and the LOOP platform via LOOP's microwave and radio communications system.

These design features represent the most advanced technology that we are aware of to reduce the likelihood of spills from either the facility or vessels calling there.

We are, of course, well aware that spills cannot be prevented by equipment features alone and for that reason put particular emphasis on the protective procedures spelled out in our Coast Guard approved, and periodically updated, Operations Manual. Let me take you through a typical process by which a tanker calls at and offloads its cargo at LOOP.

Approximately 20 miles south from the Port while the tanker is inbound for LOOP in the Safety Fairway, radio contact is made by our vessel traffic controller. Instructions are given to the tanker regarding berthing and any other conditions in the area of the Port which may be helpful to the inbound tanker. If the tanker is coming directly to berth, two LOOP mooring masters are transported from the LOOP Platform via helicopter or launch to the tanker prior to it entering the Safety Zone. Tankers cannot proceed to berth without LOOP mooring masters aboard and without being cleared by the vessel traffic controller. While moving in the Safety Zone to berth, one LOOP mooring master is on the tanker's bridge providing guidance and the other LOOP mooring master is on the ship's bow. The mooring master on the bow provides additional guidance and direction via radio to the tanker bridge while approaching the berth. During this approach, the tankers are frequently advised of their speed, heading and location by vessel traffic control.

Once the tanker is moored at the berth, the mooring masters remain onboard to monitor the cargo discharge. Communications are always maintained with the mooring master aboard the tanker during cargo discharge.

Once cargo discharge is complete, the tanker is disconnected and guided back to the approach section of the Safety Fairway by the mooring masters and the vessel traffic controller. Once out of the terminal section, the mooring masters depart the tanker and it exits to the Safety Fairway.

Procedures are only as good as the people who carry them out, and I need to say something about the qualifications of our people. Key to our operation are the port superintendent, the vessel traffic controller, the mooring masters, and the cargo transfer supervisor.

1. The port superintendent is in charge of managing the operation of the offshore facility. Our port superintendents have considerable experience in all phases of operation at the Port and are familiar with the hazards of the oils we handle. We also have a

designated back-up port superintendent at the Port if needed. The port superintendent is stationed on-site at the offshore platform.

2. The vessel traffic controllers must have performed for one year within the last five years in a capacity requiring radar plotting and analysis of vessel movement or satisfactorily completed a marine radar operators school acceptable to the Commandant. In addition, the vessel traffic controller must demonstrate his knowledge and ability for using the radar control system, marine radio telecommunications system and procedures for vessel control.

3. The mooring masters must meet certain licensing and experience requirements. A mooring master at LOOP must have either an Ocean Masters License, Ocean Chief Mates License or an Inland Masters License issued by the U. S. Coast Guard. Depending on the type of license, varying degrees of additional experience and training are also required. All mooring masters must have a radar endorsement and must experience a minimum of 20 roundtrip tanker evolutions at LOOP before being qualified. The mooring master candidate must also demonstrate a knowledge of vessel control, vessel responsibilities, spill prevention and clean-up, emergency response, marine radio telecommunications, oil transfer procedures and product handling.

4. The cargo transfer supervisor must demonstrate the capability to operate the oil transfer equipment, must have at least one year experience in offloading tankers of 70,000 deadweight tons or larger, supervised at least 25 cargo transfer evolutions from tankers 70,000 deadweight tons or larger and served in a training capacity for a minimum of one year as a cargo transfer supervisor. The person must also demonstrate a working knowledge of the oil transfer operations, spill prevention, containment and clean-up, emergency response and marine radio telecommunications.

LOOP designates the person in each of the above positions and advises the U. S. Coast Guard Captain of the Port in writing of that designation. I feel very good about our overall work force. Our people are dedicated and they take pride in what they are doing. We continue to emphasize safety and proper training in all areas of our operation.

LOOP currently has a good drug and alcohol policy. The use, possession, distribution or sale of any unauthorized drug or alcohol while on company premises is prohibited. Reporting to work under the influence of drugs or alcohol is prohibited. All LOOP employees and employees of contractors performing services for LOOP are required to comply with our policy.

Employees are encouraged to volunteer for rehabilitation assistance before their problem leads to a situation which could jeopardize their employment. Employees that volunteer for rehabilitation will generally not be subject to discipline solely on the basis of the voluntary request. The LOOP Coordinated Rehabilitation Program requires the employee to meet with the appropriate professionals representing the program. Treatment, details of the program, the arrangements for long-term follow-up and the program documentation requirements are established at the meeting. Prior to the employee returning to work, LOOP must receive acceptable documentation on successful participation in such program.

In enforcing the policy, unannounced searches of employees, employees of contractors and all personal property on LOOP premises are conducted periodically as a deterrent or if there is evidence of a policy violation. Over eight years of operation, we have conducted searches which have included a total of 638 personnel inspected. Of this total, 338 were LOOP employees and 300 were contractor employees. During this time period, LOOP's total work force involved in port operations has been in the range of 100 to 150 employees and 30 to 40 contract personnel. We had 49 findings from the total 638 personnel searched. Appropriate action and follow up has been carried out each time a "find" has occurred. Our statistics indicate that the findings have reduced sighificantly from the early years when we began the program. In the last 2½ years, we have had only 5 findings from a total of 170 personnel searched. We feel that this program has been an effective deterrent to drug and alcohol use.

Any violation of the policy, including refusal to consent to personal searches and laboratory testing, will subject the employee to discipline including discharge for the first offense. Moreover, employees distributing, selling or discovered in the act of using unauthorized drugs or alcohol on LOOP premises will be discharged. We can and do enforce these same policies against our contractor personnel.

With regards to pre-employment, we include laboratory drug testing as part of the required physical exam and also make a Motor Vehicle Record (MVR) check for violations. We are currently reviewing our existing policy with the intent of including random drug testing, annual physical exams for certain positions and periodic MVR checks.

To summarize, I don't know much that we can do that we aren't doing in the area of preventing spills. We are, however, continuing to review this issue and will continue to improve as improvements become feasible.

WHAT ARE LOOP'S CONTINGENCY PLANS IF A SPILL DOES OCCUR?

LOOP's spill response capability is directed primarily towards spills from the Port and its associated facilities, and vessels moored at the Port or in the Safety Zone. In case of an oil spill, LOOP's actions are generally governed and prescribed by our Oil Spill Contingency Plan. This Plan was approved by the Coast Guard in the licensing process and has been periodically updated since that time. Under the Plan, LOOP maintains substantial equipment, supplies and trained personnel both offshore and onshore.

1. Some of the major equipment includes numerous onshore and offshore skimmers, over 27,000 feet of various sizes of containment boom, numerous size boats dedicated to response to onshore and offshore spills, various vehicles, trailers and miscellaneous hand tools, absorbent pads, steam cleaning units and other assorted equipment dedicated to oil spill response.
2. The oil spill response center is equipped with radio and telephone communication equipment, maps and other supplies needed in directing the spill response operation.
3. The annual training exercises involving representatives from the Coast Guard and other federal agencies and the State of Louisiana have proven largely successful.

While we have not had a major spill at LOOP in the eight years of operation, we have responded on several occasions to small spills. On each occasion, the response plan was effective in mitigating the environmental impact of the spill. It was apparent, however, in responding to these small spills (less than 500 barrels), that today's available mechanical clean-up equipment is limited in its effectiveness in the open waters of the Gulf of Mexico. Several thousand feet of containment boom deployed in the Gulf of Mexico appears very small compared to a spreading oil slick on the open sea. This amount of boom, however, becomes difficult to handle, maneuver and may be rendered ineffective depending on the sea conditions.

If there is truly a major spill, and we think this is unlikely, we are not going to be able to use conventional means alone to respond to it effectively. We are going to have to do something in addition to the use of booms and skimmers. It is in this area that our major concerns lie.

While we are reasonably comfortable that our control, containment and removal capabilities represent the best available technology respecting the great majority of spills that conceivably could occur within our Safety Zone, I will admit to you that we do not have, don't think anybody has, and don't think there is anywhere available the capacity to contain and remove truly major spills. This fact was acknowledged in the EIS on the LOOP project and this fact is just as true today as it was then. It is difficult to even quantify what constitutes a major spill due to the many variables involved. A spill as small as a few thousand barrels may be considered major dependent on the rate of release, location, sea and wind conditions.

WHERE DO WE NEED TO IMPROVE?

As I said in the beginning, there are some areas where we are not satisfied. LOOP's Oil Spill Response Plan does include a section on the use of dispersants. LOOP has felt for quite some time that dispersants can be an effective tool if used properly in mitigating the effects of an oil spill. Dispersion must not be considered a panacea to minimize oil spill damage in all instances. Physical containment and recovery are the preferred route, but where recovery of oil is not possible, many benefits may be realized as a result of dispersing the oil into the water column in fine droplets.

1. The rate of biodegradation of the oil is increased.
2. Damage to marine fowl is avoided since oil is removed from the water surface.
3. Spilled oil is prevented from wetting solid surfaces such as beaches, marshlands or shore property.
4. Dispersion prevents the formation of water-in-oil emulsion.

Extensive laboratory testing has been conducted by LOOP and others on the effects of dispersed oil to various marine species. These tests have been very encouraging and do indicate minimal effects to the environment.

The problem that we currently face is the approval process required and the approval itself for dispersant use. If LOOP feels that a situation requires the use of dispersants, an approval request is made to the U.S. Coast Guard - On Scene Coordinator (OSC). If the OSC concurs, then the OSC must request approval for dispersant use from the Regional Response Team (RRT) members of Region VI. Region VI just recently adopted a plan to aid in authorizing the use of dispersants once an incident has occurred. While this plan is a step in the right direction, this decision process is cumbersome and time consuming. My concern is that a decision will be delayed and the opportunity to effectively use dispersants will be lost. I am not optimistic that if we requested the use of dispersants today, that we could get the approval.

Since 1984, LOOP has been very active with various agencies trying to advance the understanding and knowledge about dispersant usage. This is a tool we need to effectively mitigate the effects of a major spill. LOOP is the ideal facility where pre-approval for dispersant use could be granted to the U. S. Coast Guard - OSC. We have a fixed location, deep water which is ideal for dispersion and we have equipment and personnel on site for rapid response. If there are concerns or problems by the various agencies involved, let's actively address them now before an incident occurs. The Louisiana Department of Environmental Quality has suggested in the past that field tests using dispersants be conducted near the LOOP facility in an effort to train and become more familiar with dispersant use. LOOP has been in full support of these tests. To date, the RRT has not approved moving forward with such tests. Studies have shown and we are convinced that dispersants can be an effective tool if used quickly and properly before the oil spreads to a large area and before reaching shallow water. In dealing with a major spill that is projected to impact the shore, one normally will have one of two choices:

1. Prepare for the oil to impact beaches, shoreline property, animal life and vegetation.
2. Disperse the oil into the water column while still offshore.

Once a major spill occurs, there will be an environmental impact. Dispersion in many cases may be the best option to minimizing that impact.

CONCLUSION

To conclude, I will simply say that we have been thinking about and doing something about oil spills for a long time and we will continue with our efforts to improve our capabilities. I am comfortable in assuring you that, from an oil spill point of view, the country is much better off with LOOP than without LOOP. Recent events, however, have shown us that the inconceivable can happen and LOOP would like to be in a better position to handle it if it does occur. Getting into that position involves some factors beyond our control.

The specific factors beyond our control are the prior government approvals required of a plan for the use of dispersants in the case of a major spill in the LOOP Safety Zone. Under the National Contingency Plan, a dispersant may be authorized for immediate use by the OSC only if the federal Regional Response Team (RRT) has previously approved a site specific dispersant plan for the area of the facility. Otherwise, the dispersant use may be authorized only after the spill and then only with the concurrence of the RRT subject to a veto by the representative of either the EPA, Louisiana or Texas. If the dispersant use approval process is not centralized in one person, the OSC, delays in the process could easily shut the narrow time window within which the use of the dispersant is a viable option to mitigate the environmental impact.

LOOP has unsuccessfully sought on the local level the approval of a dispersant use plan for the LOOP facility for over four years. Although the State of Louisiana generally has supported the approval of the plan and extensive research on the impact of the dispersant on the local marine environment and resources has been completed, no final approval action has been taken by the RRT. The EPA, the Coast Guard, and other representatives on the Region VI Regional Response Team need to be encouraged and given the resources to promptly address this serious problem and approve such a plan. If approval is not promptly issued at the local level, we would hope that this issue could be elevated and promptly resolved here in Washington.

LOOP is certainly going to continue with its efforts in this area and stands ready to offer support to accomplish this pre-approval goal.

Senator **Breaux**. Thank you very much, Mr. Thompson. Let me ask Mr. Carl Landgrebe. Carl, would you come on up and take your place next to Mr. Thompson so we can do it all at one time? Thank you for your testimony.

Next, Mr. Corrado or Mr. Wyman, who is going to give a statement. Mr. Wyman, would you please summarize your testimony, would be appreciated.

STATEMENT OF THOMAS S. WYMAN, MARINE MANAGER, CHEVRON SHIPPING CO., SAN FRANCISCO, CA; ACCOMPANIED BY ERNEST J. CORRADO, PRESIDENT, AMERICAN INSTITUTE OF MERCHANT SHIPPING, WASHINGTON, DC

Mr. **Wyman**. Yes, Mr. Chairman. I am Thomas Wyman, manager of the Government and Public Affairs Division, Chevron Shipping Company, and with me on my right is Ernest Corrado, president of the American Institute of Merchant Shipping. This testimony is also being presented on behalf of the API, the American Petroleum Institute.

Gentlemen, the very enormity of the *Exxon Valdez* oil spill requires that both industry and government critically reassess tanker design criteria and vessel operating procedures to determine what changes might be made to reduce the risk of future spills.

On April 7th, and, as a direct consequence of this spill, the API established a senior-level task force comprised of chief executives and presidents of eight major oil companies. Their task is to examine such areas as the manning of ships, the personnel and facilities available for oil spill clean-up, their state of readiness, and the adequacy of oil spill contingency plans and training programs.

The report and the recommendations of this task force are due in less than 60 days. Consequently, the views we express today on such key issues as double bottoms, on-board spill containment and cargo tank size limitations are preliminary and confirmation will depend on the work of a task force.

And now, turning to specific issues. Firstly, vessel traffic systems. They have a broad base of support, both within the industry and among others interested in vessel safety. Radar coverage should be extended in existing systems, where, by doing so, navigational safety can be further enhanced. In addition, VTS should be selectively expanded to cover other areas where justified by traffic volume, types of cargoes, and local navigational requirements.

Competent pilots are essential in designated pilotage waters to help assure safe navigation. Last year, the National Transportation Safety Board recommended that the Coast Guard seek legislation requiring all pilots of commercial vessels on the navigable waters of the United States to have a Federal pilots license legally superior to all state-issued documents. We concur with this recommendation.

On-board carriage of spill containment capability is not, in our view, an effective way to deal with spills from a tanker. Deploying such equipment during a spill emergency involving a collision or grounding could jeopardize crew safety and compromise efforts to save the vessel. Experience has shown that oil spills from tankers are more effectively handled by the timely response of shoreside personnel.

However, we do suggest the Coast Guard consider regulations to strengthen the on-board response capability to control, keep on board, and clean up spills resulting from tank overflows. And we can certainly support the Coast Guard's proposal that contingency plans for individual vessels to deal with oil spills should be implemented and be subject to general approval.

Requirements to install double bottoms on tankers have generally met strong resistance. The fact that double bottoms would make it more difficult to refloat and salvage a holed vessel means that some minor groundings could develop into serious losses, and thereby increase the total amount of oil that could be lost.

The installation of transponders aboard vessels to emit signals and enhance a vessel's radar image would not appear to enhance maritime safety. However, we suggest the U.S. Coast Guard make its own assessment of this proposal in conjunction with its evaluation and possible expansion of VTS operations.

Turning to training and licensing practices, those in the United States are stringent, but in our view, there is room for improvement. Internationally, we would like to see the United States ratify the IMO convention on standards of training, certification, and watchkeeping. The U.S. Coast Guard should move ahead in finalizing uniform, industry-wide tankerman training and operating requirements, and update other shipboard training and drill requirements.

Drug and alcohol control and testing aboard ships is a key issue. Industry fully supports the efforts of the U.S. Coast Guard and Department of Transportation in developing and implementing comprehensive programs to control drug and alcohol abuse.

Limitation of tanker or cargo tank sizes do not appear to be really effective ways to deal with the pollution risks. A reduction in permissable tanker size would, of course, increase the number of vessels in any port or harbor area, and thereby increase the risks of collision. If cargo tank sizes were further restricted, there would be a corresponding increase in operational pollution risks during loading operations and possible tank overflows.

Now, it has been suggested that operators be required to employ co-pilots in pilotage waters. When a ship is in pilotage waters, it must have a licensed pilot on the bridge. However, the presence of the pilot does not relieve the master of his basic responsibility for the navigation and safety of his vessel. He must assure the pilot is doing his job, and if he believes the safety of his vessel is in jeopardy, he must immediately relieve the pilot and take control of the vessel. The presence of a second pilot on the bridge would complicate this master-pilot relationship and, in our view, add little to vessel safety.

In sumary, Mr. Chairman, safe, responsible navigation by trained and competent personnel is essential in preventing maritime casualties. We believe there is opportunity for improvement in certain areas, and we are prepared to work with you, Mr. Chairman, and members of your committee in effecting these improvements.

[The statement and questions and answers follow:]

STATEMENT OF THOMAS S. WYMAN, MANAGER, GOVERNMENT AND PUBLIC AFFAIRS DIVISION, CHEVRON SHIPPING CO., AND ERNEST J. CORRADO, PRESIDENT, AMERICAN INSTITUTE OF MERCHANT SHIPPING

Mr. Chairman, I am Thomas S. Wyman, Manager of the Government and Public Affairs Division, Chevron Shipping Company and I am accompanied today by Mr. Ernest J. Corrado, President of the American Institute of Merchant Shipping (AIMS). The American Institute of Merchant Shipping is a national trade association representing 20 U.S.-flag carriers which own and operate approximately eight million deadweight tons of tankers, dry bulk carriers, and other oceangoing vessels engaged in the domestic and international trades of the United States. This testimony is also being presented on behalf of the American Petroleum Institute (API), a trade association representing 200 companies engaged in exploration, production, refining, marketing and transportation.

We in the U.S.-flag tanker industry deeply regret the March 24 tanker accident in Prince William Sound, Alaska. While it is little consolation, there were some 18,000 transits with but very few minor pollution incidents preceding the catastrophe. Indeed, it is commendable that this Committee has moved without delay to convene this important hearing today on oil spill related issues.

The tragic EXXON VALDEZ spill has served to shock the industry and the nation out of what might have been a developing complacency--a feeling that perhaps the next big oil spill would not happen. As a consequence, I can assure you that we intend cooperating with respect to a number of safety measures which are set out later in this testimony.

The spill is attracting worldwide attention. It was referred to during the Diplomatic Conference involving maritime salvage which the U.N.'s International Maritime Organization (IMO) held last month in London and in which sixty-five (65) governments participated. There is no question that vessel design and operations will receive renewed attention within IMO. The EXXON VALDEZ accident will spur new assessments as to what more can be done internationally to prevent such disasters.

Vessel operating companies provide marine transportation services internationally. Because of the international nature of this service industry, individual governments must work through IMO to implement design and major operational changes in the world fleet. A single government may impose design and operating requirements on vessels of its own flag. However, without international sanction, it is virtually impossible for it to impose these same requirements on vessels of other flags trading to its ports. Thus, the role of IMO is vital in providing a forum for governments to agree upon and adopt standards and regulations governing vessel design, safety and pollution prevention which can then be ratified and brought into force by IMO member governments.

On balance, we are quite pleased with the approach taken in the Hollings/Breaux bill to the effect that the Coast Guard should initiate studies to consider tanker safety issues set out in the bill and to issue regulations to implement such changes as may be appropriate. These are all technical matters and, as such, we agree that they should be considered administratively rather than as mandatory standards enacted by the Congress. Now we would like to comment on a number of areas in which it has been suggested that action may be necessary given the circumstances of the EXXON VALDEZ spill.

Vessel Traffic Systems (VTS)

There is a broad base of support both within the industry and among others concerned with the marine environment for systems designed to monitor and facilitate the flow of vessel traffic in ports and harbors and in approaches to those areas. Most systems contain two elements--first, a Traffic Separation Scheme (TSS) comprised of separate inbound and outbound traffic lanes and second, radar coverage to monitor a vessel's progress through the TSS. These systems significantly enhance navigational safety. Under the Inland Navigation Rules Act of 1980, "each vessel required by regulation to participate in a vessel traffic service shall comply with the applicable regulations." Those rules are found in Title 33 CFR Part 161 and are administered by the U.S. Coast Guard.

Presently, six vessel traffic systems exist in the United States, Prince William Sound, Puget Sound, San Francisco Bay, Houston/Galveston, Berwick Bay (Morgan City, Louisiana), and the

St. Mary's River (Great Lakes). Participation in the Prince William Sound and Puget Sound VTS's is mandatory for all vessels of 300 gross tons or more. During conditions of vessel congestion, adverse weather, reduced visibility, or other hazards in the VTS area, the control center may issue directions specifying times when vessels may enter, move within, or depart from waters in the VTS area. Additionally, vessels are required to maintain a radio listening watch and make certain periodic reports to the control center. Finally, while within the VTS, a vessel may join, cross, or leave a traffic lane only after notifying the control center.

It is important to recognize that all Vessel Traffic Systems in the U.S. and worldwide are advisory in the sense that directives issued by the control center are considered recommendations and the pilot or officer conning the vessel is under no obligation to comply. Imposing a legal duty to respond to instructions from the vessel traffic center would be unsafe. The systems must remain advisory due to inherent limitations of radar coverage and of radar tracking systems. For example, radars cannot detect localized winds or currents or the presence of small craft or other objects in the water. These factors can have an important bearing on vessel maneuvers. Consequently, the individual conning a vessel must retain the authority to make the final determination on advice issued by the vessel traffic control center.

Another concern with mandating vessel control involves the qualifications of vessel traffic control personnel. No control center in the United States has qualified masters or pilots on staff. Coast Guard personnel typically rotate through VTS positions every 3-4 years.

The VTS has proven effective in contributing to navigational safety. Consequently, industry supports mandatory participation in advisory vessel traffic systems. Industry also believes radar coverage should be extended in existing systems where, by doing so, vessel safety can be further enhanced. In addition, such systems should be selectively expanded to cover other port and harbor areas as may be justified by marine traffic density, nature of vessel cargoes and local navigational requirements.

Pilotage

Competent pilots are essential in designated pilotage waters to help assure maritime safety. However, there have been numerous incidents over the years where vessels with pilots on board have been involved in serious collisions or groundings. The qualifications of pilots should be upgraded, and uniform effective disciplinary measures should be invoked.

Last year, the National Transportation Safety Board (NTSB) completed its investigation of a collision which occurred on the

Mississippi River between a tanker under pilotage and a string of barges. The NTSB observed that nearly all mariners on U.S.-flag tankers are licensed or certificated by the U.S. Coast Guard. The only mariners operating large vessels who are not required by the Federal Government to be licensed by the Coast Guard are some 1,100 state-licensed pilots. It went on to observe that if a vessel is involved in an accident while under pilotage by a state pilot, the Coast Guard will take steps to suspend or revoke the master's and/or watch officer's license if the vessel is found to be at fault, even though the action of the state pilot may have directly caused the accident. However, the Coast Guard has no authority over the pilot's state license and lacks any authority to suspend or revoke the license of the state pilot to prevent him from piloting other vessels even if he was clearly incompetent and caused or contributed to the accident. The NTSB emphasized that the near total immunity from federal control enjoyed by state pilots prevents the Coast Guard from carrying out its congressional mandate to ensure safety on all U.S. waterways.

Based on its findings, the NTSB recommended that the Coast Guard seek legislation requiring all pilots of commercial vessels on the navigable waters of the United States to have a federal pilot's license which would be legally superior to all state-issued documents. In justifying this course of action, the NTSB observed that such legislation would provide the Coast Guard with the authority necessary to enhance the level of safety of piloting vessels and would consolidate within a single agency the enforcement of safety regulations for all mariners including state pilots navigating commercial U.S. tonnage on the navigable waters of the United States.

The NTSB studied the congressional legislative history of state pilotage and concluded that there is nothing to preclude Congress from granting the Coast Guard greater oversight and enforcement authority over state pilots.

Accordingly, we urge that Congress implement the recommendation of the NTSB to enact legislation requiring all pilots to have a federal license legally superior to all state-issued documents.

On Board Spill Containment Equipment

It is proposed from time to time that tankers be required to carry oil spill containment equipment on board to deal with spills from the vessel. Such proposals normally contemplate the carriage of oil booms, dispersants, a work boat to deploy the booms and apply dispersants, and, possibly, skimming equipment and transfer pumps to handle recovered oil.

In reality, it is impossible to mount a truly effective oil spill response to an overboard oil spill using on board resources. The question as to whether or not on board dispersant stocks should be used in the event of a spill would also be a thorny issue. Weather conditions and the question of crew safety especially when going over the side in Arctic waters or heavy seas to respond to an oil spill must be considered. Also, danger to crew members must be taken into account inasmuch as this response would result in putting crew into and around the volatile spill in a small boat which could capsize or ignite the mass--a very precarious situation.

Tanker casualties require that actions be taken to stabilize the vessel and mitigate any further oil release. This normally requires the full crew complement to respond effectively. In short, the priority attention shipboard personnel must give to the vessel itself and the impracticability of responding to tanker spills using on board resources suggest that proposals to require vessels to carry oil spill containment equipment on board are ill-advised.

Experience has shown that in the event of an oil spill from a tanker into the marine environment, it is more effective to rely on timely response by shoreside personnel and equipment to deal with the problem.

There would be merit, however, in requiring vessels to provide limited on board response capability to control, keep on board, and clean up a spill on deck. In addition to installing required deck containment coamings, some operators take additional precautions to deal with on deck spills:

- Portable pumps, suction hoses, and discharge hoses are deployed on deck prior to cargo operations.
- Bags of sawdust, bales and absorbent pads are stocked on board.
- Squeegees, brooms, mops and drums of degreaser are available.

We suggest that the Coast Guard be requested to strengthen regulations dealing with on board tanker spills.

Double Bottoms on Tankers

Industry has consistently opposed initiatives which would mandate the installation of double bottoms on tankers. There are sound technical reasons for this position. The issue of double bottoms for tankers was thoroughly investigated in the early 1970's by IMCO--the International Maritime Consultative Organization and now IMO. The proposal to mandate double bottoms on all tankers was voted upon within IMCO on two occasions and in both cases the vote was heavily in support of the position that double bottoms should not be required.

This decision was based on the fact that double bottoms on a loaded tanker ensures that in any grounding where the bottom is pierced, the tanker will sink deeper into the water. In addition, the tanker could heel or substantially lean over to one side or the other, thus further complicating salvage operations.

On the other hand, when a conventional single hull tanker grounds and is holed, the vessel actually rises as it loses part of its cargo. This results from the fact that most of the oil in the pierced tanks will remain inside the vessel. An amount of oil will escape from a fully loaded holed tank until the pressure of the lighter oil inside the pierced tank is equal to the outside water pressure. It is this minor oil loss which reduces the loaded weight of the tanker thus causing it to rise slightly out of the water. This increase in buoyancy makes a single hull tanker easier to salvage than a double hull tanker.

Thus, it is evident that while tanker double bottoms might mitigate spillage in some minor groundings, they could turn a number of initially minor incidents into major or catastrophic losses thereby increasing the total amount of oil lost in tanker groundings. For this reason, mandating the installation of double bottoms would prove of little value at best and could, in fact, contribute to pollution risks.

Transponders

It has been suggested that each vessel be required to install transponders which emit a signal to enhance that vessel's radar image. We seriously question the need of such a requirement.

Aircraft are fitted with transponders which emit a signal to the ground radars to enhance the aircraft's radar image and provide aircraft identification, course, speed, and altitude data automatically to ground controllers. Transponders are essential for aircraft because of their relatively small size, and all aircraft are fitted with transponders as it would be dangerous for even the smallest planes to venture into controlled air space without one.

However, such devices would be of questionable value, and possibly dangerous on ships. Ships travel at slow speeds and are excellent radar targets. High speed tracking and altitude variations are not concerns of vessel traffic controllers. There is also a danger that transponder emissions from vessels would be detected by other ships and clutter radar screens with extraneous images. A ship's radar is a navigation and anti-collision tool whereas aircraft do not detect other aircraft by radar. Commercial aircraft radar is primarily used for weather detection.

In the view of industry, the value of vessel mounted transponders would be marginal and could introduce confusing radar images for vessels navigating inland waterways. At this point, we cannot support mandatory installation of such equipment. However, it may be advisable to request the U.S. Coast Guard to make its own assessment of such a proposal in conjunction with its VTS operations.

Training and Licensing

Training and licensing is a natural progression. A person cannot obtain a license nor can one upgrade a license without training or equivalent experience. U.S. maritime academies graduate professionally trained officers. There are a wide variety of programs to train seagoing personnel. U.S. licensing standards are among the world's highest.

Nevertheless, improvements can be considered. Many of the following suggestions do not require amendments to existing statutes, but it may be helpful for Congress to request the appropriate regulatory agencies to consider these changes. Some of our suggestions involve matters dealing with personnel although they are not specific to training.

- We support ratification of the International Convention on Standards of Training, Certification and

Watchkeeping (STCW). This would put the world on notice that the U.S. fully subscribes to the training standards contained in that document. The practical effect would be to enable the U.S. to review the qualifications of personnel on board ships calling at U.S. ports and to take appropriate action when questions arise.

- The U.S. Coast Guard is presently developing regulations to establish uniform industry-wide tanker training requirements. These regulations have been under development for some time and we believe the detailed training requirements contained in the proposed regulations will be beneficial when formalized and issued.

- We believe the U.S. Coast Guard should review its specific requirements for drills aboard ship. Basic training is supplemented by drills aboard ship. These should be reviewed for need and value and eliminated, supplemented or replaced with other drills as appropriate.

- We believe the issue of drug and alcohol testing is of critical importance and have commented extensively on both Coast Guard and Department of Transportation rules and regulations governing drug and alcohol testing procedures. Our members strongly support programs to prevent drug use and alcohol abuse.

Many of our members are not waiting for the legal challenges of pending government regulations to be resolved or for compliance deadlines. They have ongoing programs to deal with the drug problem which may contain the following elements:

(a) An absolute prohibition of drugs on board vessels.

(b) Pre-employment testing.

(c) For cause testing, that is testing of individuals suspected of using drugs.

(d) Post accident testing where drug usage may have been a factor.

(e) Random on board drug searches.

Similarly, our companies are reexamining their alcohol programs to assure they are in full conformance with regulations governing alcohol abuse (33 CFR Part 35).

We support the present Coast Guard regulations on alcohol use. Our members fully recognize the importance of direct management involvement and support in developing and carrying out programs to deal with drug and alcohol abuse. These programs include rehabilitation of personnel.

In addition, we support the modification of Coast Guard authority to give it access to the drivers' registry and to mandate that operators inform the Coast Guard when an employee is undergoing rehabilitation or if it is learned that an employee has been convicted of an alcohol-related offense.

- We support continued Coast Guard control over setting of manning standards of U.S. vessels. The Coast Guard bases its manning requirements on safety requirements and the level of proven automation installed on the vessel.

Tanker Size Limitations

Periodically, proposals arise to limit the size of vessels entering various ports on the premise that the maximum size of an oil spill can be limited. This approach might have some merit if the complete loss of a tanker generally occurred. Typically, in the event of a grounding or collision, damage will occur to only a limited number of tanks and oil outflow is limited to those tanks.

Limiting tanker size would have the corresponding effect of increasing the number of vessels required to move a given amount of cargo. This would increase marine traffic and collision risks. It is a general view worldwide that limiting tanker size is not a cost effective or practical way to deal with the pollution risks associated with the carriage of oil.

Similarly, suggestions have been made that cargo tank sizes be limited to increase the number of individual tanks per ship. Vessel compartmentation is carefully assessed by naval architects and today's tankers are designed to meet operational requirements and will have port, center and starboard tanks with typically six or more in each bank. As the number of tanks increase, the potential for overfilling tanks during loading operations increases and with it the risk of oil pollution. Thus industry continues to support present cargo tank size standards.

Two Persons With the Same Endorsement

Apparently what is intended here is a state licensed pilot and a federally endorsed pilot on the bridge at the same time. Present operating practices in the marine industry result in there being two or more qualified persons on the bridge when entering or leaving port. When a ship is in pilotage waters, it must have a licensed pilot on board. His role is solely advisory and his presence does not relieve the master of his fundamental responsibility for the navigation and safety of his vessel. Outside of pilotage waters, the master will set the bridge watch and if navigational hazards exist, he will decide whether another mate's presence is required. In conditions of reduced visibility situations or heavy traffic, the master will usually be on the bridge to supplement the watchstander and may call out other watchstanders as necessary.

These time proven operating practices appear to work well. If the system works as intended, it would not be necessary to have a state licensed and a federally endorsed pilot on the bridge at the same time, as well as the master and possibly another mate.

Conclusion

We well understand the enormity and far-reaching consequences of the tragic accident in Valdez, Mr. Chairman. We would hope, and do believe that in reevaluating all these standards and procedures, the Congress will take into account the fragile operating existence of the U.S.-flag tanker fleet, its miniscule profit margin, and the diminishing source of petroleum cargoes in the absence of development of the Arctic National Wildlife Refuge (ANWR). This disappearing segment of U.S.-flag capability cannot absorb the impact of too much more operating cost increases, either directly or indirectly through over-regulation.

The consequences of this loss of U.S. carrying capacity in this segment would be to eliminate one of the few remaining sources of construction for U.S. shipbuilders, eliminate a large portion of U.S. seagoing billets, and possibly turn over the carriage of petroleum and petroleum products in U.S. waters to foreign-flag vessels over which we have little control. Such a development, of course, would benefit foreign interests, but cannot be of any benefit whatsoever to U.S. interests.

Mr. Chairman, we have attempted to approach the tanker safety issue presented to us as forthrightly and honestly as possible. As you have heard, some concepts we support, others we cannot support because they are impractical, and in some instances, dangerous and contrary to vessel safety.

We stand ready to answer any questions which the subcommittee members may have, Mr. Chairman.

QUESTIONS FROM SENATOR DANFORTH

1. AIMS' members own or operate 102 oil tank vessels under the U.S. flag.

2. Of those vessels, 20 have double bottoms. 13 were built in one shipyard. Three of these vessels are in excess of 100,000 dwt. We were able to identify 19 other tankers in the U.S. fleet which have double bottoms. Four exceed 100,000 dwt which gives a total of seven ships which it can reasonably be presumed were built solely for crude trade. The seven were built by two shipyards; four of one class by one yard, and three of the same class by the other yard. The other tankers may be equipped to carry crude oil (COW, inert gas, etc.), although they are of a size that they could be used for product trade and in fact may have been the main purpose for which they were built.

In reviewing the world oil tanker fleet, we note there are over 1,000 crude capable oil tankers. Of these, 20 exceed 100,000 dwt. This represents less than 2% of the crude capable fleet. There are 89 oil tankers (crude capable) in the world fleet built with double bottoms. This is less than 8% and it can be reasonably presumed that these vessels were built with the expectation of substantial rise in product trades.

3. There have been no groundings of AIMS' member vessels or other incidents which would provide a basis for comparing double bottom vessels versus non-double bottom. The U.S. experience with double bottom oil tankers is very limited and the international experience is more limited.

4. We believe that the basic technology of transponders precludes their use as ship identifiers. We think the issue here is one of positive identification of vessels and the question of the need for and uses of the information. We would support a rulemaking which would fully review the criteria for identification and how it can be electronically achieved.

QUESTIONS FROM SENATOR BREAUX

1a. Chevron constructed five (not six) tankers with double sides and bottoms during the 1970's. These are relatively small, special purpose vessels and were designed to facilitate the carriage of petroleum products. Since double hull vessels have their structural members between the outer and inner hulls, the cargo tanks have none of the hull framing and bracing which run through the cargo tanks of single hull vessels. This smooth interior greatly facilitates tank cleaning which is necessary to prevent product contamination when switching from one type of product to another, say, from diesel fuel to jet fuel.

Therefore, Chevron commissioned the design and construction of these vessels for operational reasons while recognizing that vessels with double hulls do present other potential problems. It is common for smaller tankers which carry petroleum products to be built with double hulls for the reason described above.

1b. The safety record of these vessels has been good and fully comparable to that of our single hull vessels. Our double hull vessels are well-maintained and responsibly operated. Consequently, circumstances which can pose problems for double hull vessels have not arisen in the course of our operation of these vessels.

2a. The sea water rushing into the void space between the outer and inner hulls in a holed double bottom vessels will create another "free surface" which will add to the destabilizing effects of the free surfaces already existing in the ship's tanks. A free surface exists when a tank has a liquid in it, but the tank is not completely full. The free liquid surface can slosh from side-to-side and significantly reduce the stability of the vessel. In the case of a serious grounding of a double bottom ship, many more free surfaces can exist because the double bottom tanks are under the cargo tanks, i.e., there are two layers of tanks. Additionally, in double bottom ships, the tanks tend to be wider which further decreases stability due to the larger size of the free surfaces.

However, the situation is different in the case of a single hull vessel. When a cargo tank is holed, cargo will be lost until the pressure inside the cargo tank equals the water pressure outside the tank, another free surface is not created in this case. The vessel becomes more buoyant because of the cargo loss but its stability or tendency to list or heel is not substantially altered.

2b. It is instructive to broaden this question to an examination of dry cargo vessels which are typically constructed with double hulls. In the early 1970's, IMCO (the Intergovernmental Maritime Consultative Organization and now IMO, the International Maritime Organization) conducted a comprehensive study of the casualty records of single versus double hulled vessels.

IMCO estimated that in 57% of dry cargo ship strandings, the inside hull was breached despite the fact that bottom penetration was estimated to be equal to or greater than the height of the double bottom in less than 20% of these strandings. This provides evidence that because of the structural members and framework between the two hulls, initial damage to only the outer hull can be transmitted to and distort and tear the inner bottom. This explains the results of another study which indicated that over four times as many dry cargo ships are lost as a result of groundings as tankers.

2c. The maximum amount that any vessel can heel and return is readily calculated for any intact vessel. In the case of a simulated grounding, it would involve making a substantial number of assumptions as to the design of the tanker and the damages incurred at the time of the grounding.

We understand that NASSCO completed an analysis of damage cases on a tanker approximately the size of the EXXON VALDEZ only equipped with double bottoms. This analysis has been submitted by Exxon to the National Transportation Safety Board. In our review of the submission, we believe it probable that a vessel damaged extensively as was the EXXON VALDEZ would only survive due to extraordinary events such as being stuck aground. Even if the after damage stability of a vessel would indicate survival, if she were afloat, there is the question of weather and sea state which would have a great effect on the survivability of the vessel.

3. Please see response to the third question from Senator Danforth.

4. Most oil tankers built with double bottoms are for ease of cleaning thus allowing the ship to move various products more efficiently by permitting quicker cleaning. However, when there is a leak into the double bottom, it is extremely difficult to clean the tank for repair due to silting and tank structure. In order to clean the double bottom tank, it must be force ventilated to remove fumes, hand mucked, and then hand wiped.

In a trade where double bottoms are not operationally necessary, a double bottom ship could be at an economic disadvantage if not even competitively.

5. The average age of the active U.S. tanker fleet is approximately 18 years. Utilizing Lloyd's Register data, the average age of the world's tanker fleet is approximately 13 years.

The service life of a tanker, or any ship, is based on a number of factors including the scantlings and type of coatings. However, the greatest determinant is maintenance. A ship must pass required government inspections and virtually all meet class requirements in order to meet insurance needs. An older ship generally needs more maintenance than a newer ship, although a well maintained ship can be in much better shape than a substantially younger ship. The main question, which is answered by owners differently, is at what point does it make economic sense to maintain the vessel to requirements accounting for the probable pay back in operations?

6. The deadweight tonnage (dwt) of a vessel is the amount of cargo, fuel, stores, crew, and crew affects it can hold. The dwt of the PRINCE WILLIAM SOUND is 123,936 dwt. The capacity of the double bottom, which we stress cannot be used to carry cargo, is

42,156 tons. Added together, these would equal 166,092 tons although it cannot be assumed that the ship could carry that tonnage by simply eliminating the double bottom. Adding that weight to what a ship could carry would require extensive redesign. The segregated ballast tanks (SBT) requirements would also have to be met which would entail segregating a sizeable percentage of the volume of the hull.

7. No explosions have taken place in the double bottoms of these ships, although this has more to do with the lack of ignition sources than with the probable existence of a flammable mixture which may very well be present particularly as leaks develop. When these spaces are opened for inspection or repair and ignition sources are introduced, very careful steps are taken to ensure that work contemplated can be conducted safely.

Mr. Corrado. May I make a remark or two, Mr. Chairman?

Senator Breaux. Certainly. You used to run, me and Mr. Lott over the House side, as general counsel, so, since we are over here, we will let you say——

Senator Lott. He looks a lot more prosperous now, doesn't he?

Mr. Corrado. Not really. I used to try. I do not think I succeeded very well. Getting thrown out is not what you call success.

Mr. Chairman, I would like to add a little balance to the historical perspective of double bottoms, since it was raised by an earlier witness.

At the time frame that is in question, namely, the mid-70's, in the appropriate committee in what is euphemistically called the lower body, the chairman of the committee, the chairman of the Coast Guard subcommittee and the chief counsel all were alarmed about the double bottom issue and spent a great deal of time with it, conducted numerous studies and came up with a conclusion that they were totally opposed to it, and that was, in fact, the conclusion of the committee.

The reasons mostly have been given by the Coast Guard witness earlier, but, just quickly, in summary, we believe that double bottoms contribute to instability and, if you have leakage from the top, it can produce volatile gases in that encloses space which could act like a bomb. Our organization made a study in 1974, which must be updated, but the conclusion of that study was opposition to double bottoms. I really believe from looking at it, that, if you had had a double bottom on the *Valdez,* you would have lost that ship and the entire cargo with it. God knows, it was bad enough as it was, but it might have been a lot worse.

So I think, in examining this issue, it must really be looked at very carefully before any conclusions are legislated. The other thing that must be taken into account, is that IMO rejected the concept of bouble bottoms, and IMO, after all, is the international organization with jurisdiction over such matters. Those people are all maritime experts. Our organization over the years has spent a great deal of time and does, to this very day, working on that issue and all other safety issues within IMO.

As Hemingway and John Dunne and those boys said, no man is an island. I do not think that we can operate unilaterally on our own. I know the question was asked earlier by you, Mr. Chairman, what if we unilaterally imposed double bottoms, what will happen? Well, one thing is, the foreigners simply will not come here. And someone can say, "So what?" But that is not how international commerce works.

One more thing, Mr. Chairman, if the committee could bear in mind when you consider all of these matters with respect to tanker modifications that some folks say, double bottoms, double hulls, double boilers, twin screws, double this, double that, double everything. If you go that route, Mr. Chairman, you will end up with a zero U.S. flag tanker fleet. And cost, although it is not a consideration to a lot of people, it is a consideration to the businessman whose bottom line is on the balance sheet. Thank you, Mr. Chairman.

Senator Lott. If I could interrupt, zero U.S. flag tanker fleet. Down from what?

Mr. **Corrado**. Down from the tanker fleet we have now. What I am saying, Mr. Lott, is that, the U.S. flag tanker fleet is beleaguered now for a variety of reasons, and has been over the last years—because of a continuous 7 year fight—industry fight over CDS payback, continuous effort by the administration to export Alaskan oil, and other attempts to erode the Jones Act.

And if you do not get ANWR on stream, there will not be cargo for the tanker fleet because North Slope oil is beginning to decline now, and, with the Valdez incident, at least in my mind, it seems extremely unlikely that we will get ANWR this year or next year or maybe ever. I do not know; it remains to be seen.

But if the operating margin is thin now for the U.S. flag operator, both liner and tanker, if you were to impose double everything on these operators, Mr. Lott, you just will not have the operator.

And one more thing on double bottoms that slipped my mind. A prior witness made a point twice to talk about the proposed safety features of double bottoms on natural gas carriers.

Now, some years ago, there was a company in Houston called El Paso Natural Gas and they had a fleet of gas carriers. They went out of business because they could not do business cost-wise with the Algerians for the supply of natural gas. Three of those vessels were sold to an entrepreneur and were converted to grain carriers. They retained the double bottoms.

One of them was lost on the rocks up off Nova Scotia and at least part of the reason was double bottoms. I do not remember the name of the vessel and all of the cirumstances, but I will get the information and relay it to counsel, Mr. Chairman.

Senator **Breaux**. Thank you.

Mr. **Corrado**. Because I think that should be looked into.

Senator **Breaux**. Thank you, Mr. Corrado.

Mr. **Corrado**. Thank you, sir.

Senator **Breaux**. Mr. Landgrebe.

THE PRESIDENT, NATIONAL MARINE ENGINEERS BENEFICIAL ASSOCIATION

Mr. **Landgrebe**. Mr. Chairman, my name is Karl Landgrebe. I am special assistant to Gene DeFries, president of Marine Engineers Beneficial Association, our nation's oldest and largest maritime union. He was unable to come at the last moment and he asked me, with your permission, to present his statement, due to my having spent nearly a decade handling our union's business in Alaska and Washington state.

The *Exxon Valdez* oil spill was a tragic disaster for the people and the state of Alaska. We extend our sympathy and that of all of our members to the people of Alaska. Mr. Chairman, we want to make several points about this bill and what we can learn from it. I will shorten our prepared statement and hope that it and the other documents mentioned in it can be included in the record.

I have to begin with Exxon, its policies and its leadership. Some would have us believe that the *Exxon Valdez* accident was an aberration. I would say, instead, that the law of averages is finally catching up with company policies. The *Exxon Valdez* was not an isolated incident. There have been three major incidents involving Exxon's vessel in less than two months. That tells me that something more extensive is wrong than merely the failure of one captain.

We believe that what is wrong are what we would call "cut costs-at-any price" policies, as outlined in a 1988 speech by the president of Exxon shipping, which is included in the record we have given you. These policies are: getting rid of its shipboard officers 'association, terminating its labor agreement with its unlicensed seamen's association, thus removing any meaningful dialogue between employer and employee and any restraints to the unsafe practices inherent in its policies.

It has also ignored traditional job responsibilities established by law. It has turned on-board maintenance over the shoreside teams, thus reducing the manning available in an emergency. It has prohibited maintenance in order to justify further reductions in manning to the Coast Guard. These policies may look efficient on the surface, but they not only increase risk in themselves, but they reduce the margin of error.

There is another aspect that I would hope the committee will examine in detail, and that is the role of the Coast Guard, particularly its promotion of relaxed job standards and reduced manning aboard vessels. Other, similarly sized and double-bottom tankers on this run operate profitably with 10 officers and 17 crew, as opposed to eight officers and 10 crew with Exxon. On the night of March the 24th, had these extra seamen been aboard, the *Exxon Valdez*—perhaps the name of that tanker would not have become a household word.

A modern vessel is highly automated and the work aboard both psychologically and technologically, demanding. There are few, if any, rest days in port. Seamen are often required to work 12 hours a day and more. In fine weather on open seas, a modern vessel can operate with low crew levels. In bad weather, near land, or with an exhausted crew, the same vessel becomes a mobile bomb with little margin for error.

Reduced manning, maintenance and other changes have raised serious concerns, not only with us but with shipping authorities around the world who are worried as well. In reference to this, I have submitted several articles from the Journal of Commerce and Lloyd's List. They note rising safety deficiencies worldwide and growing concern over maintenance and the risks of low manning.

We can take risks for years and nothing may happen. Sooner or later, something will, and, before it happens again, should we not ask ourselves if the risks are worth the price?

It is better to see that we do everything possible to prevent any new spills and that we have the capability on-line, ready to go, to deal with any spill should it occur. People of Alaska were promised that a capability did exist to handle up to a 148,000-barrel spill. This capability, like marine safety, disappeared.

With this as a background, let me briefly make several specific recommendations, which, many of which have been suggested today by others as well. We would divide our recommendations into two broad categories. Category number 1 consists of actions to reduce the risk of a new oil spill.

For this, we would recommend that the Congress and the executive branch take a close look at whether vessels carrying dangerous cargoes are adequately and competently manned. This should apply not only to Jones Act vessels in the Valdez oil trade, but to all vessels, regardless of flag, that enter the 200-mile U.S. economic zone. By applying tough standards to everybody, we will be fair to everybody. And it is the only way to be effective, since 96 percent of our foreign trade is carried on foreign flag vessels.

We would recommend that, rather than relax job standards in regard to competency and proficiency, as the Coast Guard has seemed willing to do, that we insist that these standards be toughened. We would recommend that the whole concept of on-shore rather than on-board maintenance be re-examined. What are the risks? Does it save money or does it really only move costs to a different location while reducing shipboard personnel and increasing risk?

We would recommend that in Prince William Sound and other sensitive areas, that local pilots be on board for transit through the entire sensitive area. We would recommend that the Coast Guard improve its radar coverage in sensitive areas, such as Prince William Sound.

The committee should also investigate the relative merits of positive radar control systems similar to that used in air traffic, as opposed to the current voluntary advisory system in use in maritime today.

Finally, we would recommend that serious study be given to phasing in double hulls or double bottoms for all tankers permitted in a 200-mile zone. Double hulls or double bottoms might have mitigated the *Exxon Valdez* spill, and they certainly have prevented spills in many other circumstances.

Our second category of recommendations concerns dealing with oil spills that may take place no matter how vigilant we are. We would recommend the following. First are escort vessels with sufficient size to have the necessary oil spill response equipment on board, and with sufficient speed to accompany tankers as they pass through the sensitive areas.

Second, there should be extensive oil spill containment and clean-up equipment and personnel pre-positioned in sensitive areas, including highly capable, fully operational skimmer vessels. Personnel should be trained and highly competent. And let no one say that the oil companies cannot afford it. The monetary costs of the clean-up alone would probably have paid for many decades of such precautions, which could have prevented or minimized the destruction.

Furthermore, the cost to the nation and the people and environment of Alaska should not be overlooked. We doubt that more than a small percentage of the oil will be recovered. The rest will remain for many years as a continuing source of pollution and a blight on the livelihood of thousands of Alaskans.

Mr. Chairman, these recommendations, no doubt, do not exhaust the list of steps we have to take to prevent a new spill, to be able to contain and clean one up if it does occur, and to reassure the American public and the people of Alaska that the right lessons have been learned from the *Exxon Valdez*. They do, however, make a solid start and they are fundamental to reducing the risk as much as we can.

We thank you for holding these hearings today. We will be happy to work with the Congress and the executive branch to make sure than the *Exxon Valdez* spill is the beginning of a safer future, not a warning of danger slowly forgotten as blackened beaches and a spoiled environment slip from page 1 to page 21 of our daily papers. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF C.E. DEFRIES, PRESIDENT, NATIONAL MARINE ENGINEERS' BENEFICIAL ASSOCIATION

Mr. Chairman, I am honored to testify before this Committee as President of the National Marine Engineers' Beneficial Association—our nation's oldest and largest maritime union. We represent officers and unlicensed seamen aboard U.S.-flag vessels in the domestic and international trades. Many of our members serve on tankers in the Alaska oil trade.

The *Exxon Valdez* oil spill was a tragic disaster for the people and the State of Alaska. And I want to extend my sympathy, and that of all our members, to the people of Alaska. This disaster did not have to happen.

Mr. Chairman, I want to make several points about this spill and what we can learn from it.

I have to begin with Exxon, its policies and its leadership. It would be a grave mistake to blame this accident on one captain who may or may not have been drinking. Some would like the world to believe that it was all due to a rogue captain defying company policies, fired as soon at the company knew of his problems. The truth is that he was hand-picked, and he was retained despite questions about his record. Therefore, if an alcohol problem was really the cause of the spill, then this is a failure of management pure and simple.

Some would have us believe that the *Exxon Valdez* accident was an aberration. I would say, instead, that the law of averages is finally catching up with company policies. The *Exxon Valdez* was not an isolated incident. On March 4th, the *Exxon Valdez* ran aground off Oahu, spilling 34,000 gallons of oil. On March 24th the *Exxon Valdez* ran aground spilling 11,000,000 gallons of oil. On April 26th, the *Exxon Philadelphia*, carrying 22 million gallons of oil, was adrift for seven hours due to engine failure off the coast of Washington State—saved from a new potential disaster by calm seas, deep water, and tug boats. Three major incidents in less than two months. That tells me that something more extensive is wrong than merely the failure of one captain.

Much of what is wrong with Exxon Shipping is contained in a 1988 speech by its President which I would like to submit for inclusion in the record [1] of this hearing. Given the recent record, one could have fun ridiculing self-congratulatory statements in this speech like "performance and competence rather than seniority became the key factors determining promotion to the rank of captain" or "the commitment and professionalism demonstrated by its fleet officers in the first year of the shipboard team concept exceeded all expectations. . . ." However, it is more instructive to note what this speech reveals: cut-costs-at-any-price policies. In 1981, Exxon got rid of its own company officers association, and, recently, it has terminated its labor agreement with its unlicensed seamens' association. It has turned its officers into "managers." These measures have removed the dialogue between employer and employee and any restraints to the unsafe practices inherent in these policies.

It has had personnel cross over tranitional job responsibilities established by law despite the highly-technical aspects of most jobs aboard today's vessels. It has turned maintenance over to onshore teams instead of having this task in the hands of those who know and operate the vessel. It has prohibited shipboard engine room maintenance and transferred it to shoreside solely to justify further manning reductions to the Coast Guard. It has pursued reduced manning aboard vessels, and, working with the Coast Guard, had won approval for manning reductions to fourteen or fifteen on the certificates for the *Exxon Valdez* and other vessels. In some cases, these policies may produce short-term "efficiencies," and they may make the corporate bottom line look good. But steadily they reduce the margin for error. An Exxon Seamens' Union representative has charged that the *Exxon Houston* spill was due to poor maintenance and inadequate crew numbers. And when the *Exxon Valdez* sailed out of Valdez on March 24th, it sailed with first and second mates exhausted by many hours on-duty during the loading process and no fully-competent officer ready to take control when the captain reportedly was not there to do his job.

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[1] The submissions were not reproducible.

I would hope that this Committee and others would look closely at these aspects of this company's policies. They look efficient on the surface; they save the company money; and they may succeed for years. But sooner or later, as I said eariler, the law of averages will catch up, because these policies not only increase risk in themselves but they reduce the margin of error.

There is another aspect that I would hope that the Committee will examine in detail and that is the role of the Coast Guard. Did it, like everyone concerned, become complacent? Why were local pilots not required to take the ship past hazardous areas such as Bligh Reef? Why was the Coast Guard office in Valdez downgraded reduced in personnel? Surely Coast Guard cuts could have been made in other areas not nearly as sensitive and important. And there's another factor to consider. The President of Exxon Shipping spent nearly a decade in the Coast Guard, and the company has led the way with the Coast Guard in joint efforts to reduce manning and other operational requirements for shipboard personnel. At this point, I would like to introduce for the record a manning proposal co-signed by the President of Exxon Shipping and Rear Admiral Kime of the Coast Guard. The proposal calls for the repeal of longstanding Congressional requirements and also would dilute the requirements for qualifications of personnel aboard vessels. This would grant to the Coast Guard wide discretionary authority in manning and regulation. I would hope that the *Exxon Valdez* disaster will have demonstrated once and for all the dangers of the approach recommended by this paper. After all, it is expected, even if deplorable, that a company might push regulations to the limit or even to seek their reversal. The Coast Guard, however, is expected to adhere to different standards, and it has the power to "just say 'no'."

Those in favor of reduced manning policies will say that they are only what the rest of the world is doing and that these are needed in order to be competitive. To begin, this argument is absurd. Just because others are doing it, does not make it right or safe. Do we want America's coasts to be held hostage to the policies of foreign-flag companies who have no bottom line? We have always set higher standards for our vessels and their crews. These higher American standards are not unique to the merchant marine; in many areas, such as aviation, workplace safety, the environment, and even financial regulation, our standards are high. They serve goals collectively known as the common good—not company profit or competition with another nation's cut rate standards and workforce. To be sure, it costs money to reduce risk, but in long run it is far cheaper to see that an accident such as the *Exxon Valdez* doesn't take place than to pay for it, in so many ways, when it does.

This is not a call for over-manning. It simply asks that safe operation be the determining standard, not low cost to the company. Actually, the two are not incompatible. We have contracted companies that operate similarly-sized tankers with double bottoms—as opposed as *Exxon Valdez* and her sister ship which have single hulls. These vessels have operated profitably on the Valdez run with five deck officers rather than four and five engineers rather than four, as well as a total unlicensed complement of 17 versus 10 on the *Exxon Valdez*. On the night of March 24th, had these extra seamen been aboard the *Exxon Valdez*, perhaps the name of that tanker would not have become a house-hold word across the country.

In this connection, I should note that on April 7th, the Board of Directors of the American Petroleum Institute announced the formation of a task force consisting of the CEO's of the seven largest U.S. oil companies. It will review industry operations and present a recommended program. Number one on its list of areas to be examined is "the manning of ships." I hope that the U.S. Government in its review will give manning the same priority. After all, cleanup contingency plans and oil-spill equipment are vital and important. But even more so is making sure that the spill never occurs in the first place.

It is important to understand that when I emphasize manning I am not thinking just of numbers or of using this disaster as an excuse to get more jobs. All over the world, the number of mariners aboard each vessel is dropping to levels undreamed of a decade or two ago. The Coast Guard had certified Exxon tankers for a minimum crew of 15 persons (14 if the radio officer is not required); in other nations, vessels are already operating with less. A modern vessel is highly-automated and the work aboard both psychologically and technologically demanding. There are few, if any, rest days in port. Seamen are often required to work 12 hours and more a day on these vessels. In fine weather on the open seas, a modern vessel can operate with low crew levels. In bad weather, near land, or with an exhausted crew, the same vessel becomes a mobile bomb with little margin for error. All these developments have raised serious concerns not only with me and our members but with shipping authorities around the world who are worried as well. In this connection, I would ask that several articles on this subject from the Journal of Commerce and Lloyd's List be included in the record. They note rising safety deficiencies worldwide and growing concern over maintenance and the risks of low manning. Again, I note the law of averages. We can take risks for years and nothing may happen. But sooner or later, something will—and before it happens again shouldn't we ask ourselves if the risks are worth the price?

After the *Exxon Valdez* ran aground, many pointed to more than a decade and thousands of loadings without a hitch. Those statistics are irrelevant, for we cannot afford to destroy the State of Alaska or some other state every twelve years. Those statistics are unacceptable to millions of Americans, and if we treat disaster as business as usual then I fear the American people and the citizens of Alaska will, understandably, one day say "no more"—with profound consequences for our energy independence and our economic and military security.

If the *Exxon Valdez* can serve any purpose at all, then let it serve at least as a warning we heed, a disaster that by its lesson kept us from a worse one in the future.

Before I turn to some specific suggestions for the future, Mr. Chairman, I would like to make one additional point. Since the *Exxon Valdez* oil spill, I have voiced my approval for President Bush's continued support for oil exploration and development in the ANWR area of Alaska. These days, this is not an easy position to take, but it is the only sensible position. Our nation must have a reliable source of energy completely under its own control from the wellhead to the consumer. Alaska North Slope oil, whether from ANWR or from existing fields such as Prudhoe Bay, is vital to this goal. One must always remember that the alternative is simply more imports, more possibility of shortages and gas lines, and more oil carried on foreign-flag tankers whose standards make ours look positively rigorous by comparison and none of whose owners would be as able as Exxon to pay for damages should they occur.

It is better to see that we do everything possible to prevent any new spills and that we have the capability—on-line, ready-to-go—to deal with any spill, should it occur. The people of Alaska had always understood and were promised that a capability did exist to handle up to a 148,000 barrel spill. This capability, like marine safety, disappeared. We should never again allow ourselves to be this complacent.

With this as background, let me briefly make several specific recommendations—many of which have been suggested by others as well.

I would divide my recommendations into two broad categories.

Category number one consists of actions to reduce the risk of a new oil spill. For this, I would recommend that the Congress and the Executive Branch take a close look at whether vessels carrying dangerous cargoes are adequately and competently manned. This should apply not only to Jones Act vessels in the Valdez oil trade but also to all vessels, regardless of flag, that enter the 200-mile U.S. Exclusive Economic Zone. This last point is extremely important. In late April, almost unnoticed in the U.S. press, a 276,755 ton Indian tanker, the *Kanchenjunga*, ran aground in the Red Sea, spilling nearly one million gallons of oil. A preliminary report in Lloyd's List says that the vessel may have gone aground "after navigators used an outdated chart and an unauthorized route"—a development that ought to give pause to those who advocate foreign-flag imports as an alternative to Alaska oil. No, we cannot ourselves stop a future *Amoco Cadiz* or *Torrey Canyon* on some foreign coast, but we must insist that vessels wishing to ply our trades abide by our rules—and not endanger our beaches and our coasts. By applying tough standards to everybody, we will be fair to everybody—and it is the only way to be effective since 96 percent of our foreign trade is carried on foreign-flag vessels.

I would recommend that rather than relax job standards in regards to competency and proficiency—as the Coast Guard has seemed willing to do—that we insist that these standards be toughened.

I would recommend that the whole concept of on-shore, rather than on-board, maintenance be re-examined. What are its risks? Does it save money, or does it really only move costs to a different location while reducing shipboard personnel and increasing risks?

I would recommend that in the Prince William Sound, and in other sensitive areas, that local pilots be on-board for transit through the entire sensitive area.

I would recommend that the Coast Guard improve its radar coverage in sensitive areas, such as Prince William Sound. The cost to our nation of just one spill has already far exceeded whatever savings that might have been achieved by cuts now proven penny-wise but pound-foolish. Furthermore, on the subject of radar, the Committee should investigate the relative merits of a positive radar control system, similar to that used in air traffic, as opposed to the current voluntary advisory system in use for maritime today.

Finally, I would recommend that serious study be given to phasing in double-hulls or double bottoms for all tankers permitted in the U.S. 200-mile zone. Double hulls or double bottoms might have mitigated the *Exxon Valdez* spill, and they certainly have prevented spills in many other circumstances.

To deal with oil spills that may take place no matter how vigilant we are, I would recommend the following:

First, escort vessels with sufficient size to have the necessary oil-spill response equipment on-board and with sufficient speed to accompany tankers as they pass through sensitive areas. Events have clearly shown that a spill, to be contained at all, must be contained early, in the first few hours.

Second, there should be extensive oil spill containment and cleanup equipment and personnel pre-positioned in sensitive areas, including highly-capable and fully-operational skimmer vessels. Personnel should be trained and highly-competent. This containment and cleanup force should be maintained with the same degree of readiness that we do a front-line combat unit on the East German border. There simply is no excuse for complacency. And let no one say that the oil companies cannot afford it. The monetary costs of the cleanup alone would probably have paid for many decades of such precautions which could have prevented or minimized the destruction. Furthermore, the cost to the nation and the people and environment of Alaska should not be overlooked. I doubt that more than a small percentage of the oil will be recovered. The rest will remain for many years as a continuing source of pollution and a blight on the livelihood of thousands of Alaskans.

Mr. Chairman, these recommendations no doubt, do not exhaust the list of steps we have to take to prevent a new spill, to be able to contain and clean one up if it does occur, and to reassure the American public and the people of Alaska that the right lessons have been learned from the *Exxon Valdez*. They do, however, make a solid start, and they are fundamental to reducing the risk as much as we can.

We thank you for holding these hearings today. We will be happy to work with the Congress and the Executive Branch to make sure that the *Exxon Valdez* is the beginning of a safer future—not a warning of danger slowly forgotten as blackened beaches and a spoiled environment go from page one to page twenty-one.

Thank you, Mr. Chairman.

Senator BREAUX. Thank you, Mr. Landgrebe.

Mr. Thompson, it brings back a deja vu. I remember quite well, as original sponsor of the legislation that created the offshore, deepwater oil port back in the early 1970s. And it is all the things we talked about back then as to why we were doing this was to try and prevent the potential for very large oil tankers from having an accident and a spill in crowded areas.

How much oil has LOOP handled, do you know, since it was constructed, and how much has been spilled?

Mr. THOMPSON. We went into operation in May of 1981 and, to date, I estimate we have handled about 1.5 billion barrels and we have spilled, over that roughly eight years of operation, somewhere in the range of 30,000 to 35,000 gallons, less than 800 barrels, somewhere in that range, which is, I think, .00005 percent of that 1.5 billion.

Senator BREAUX. That is a very impressive record. You have a vessel traffic safety system that, to me, seems to far exceed anything we have in Prince William Sound or anywhere else for that matter.

Mr. THOMPSON. That is correct. It works very well. It is very effective.

Senator **Breaux**. You also are contributing, or have contributed in the past to the oil spill fund which we created at that time, to have a fund in place in case a spill occurs so the money will be available to clean it up. Do you know how much is in that fund? How much has been contributed?

Mr. **Thompson**. I think that the maximum amount that has been in that fund was about $10 million to $12 million. The last two years, funds have been transferred out of that fund for other uses. And that fund is in the range of about $5 million.

Senator **Breaux**. It was how much per barrel tax?

Mr. **Thompson**. Two cents per barrel.

Senator **Breaux**. Well, you all have done a great job. And the purpose here is to provide the difference as far as how we handle importing of large amounts of crude oil. I am really impressed with the record that LOOP has been able to create.

Mr. Wyman, you have given your testimony on behalf of API. You make a number of recommendations. Do you know what the policy is with regard to alcohol on board American-owned tankers?

Mr. **Wyman**. Mr. Chairman, that varies as among companies. Some companies have a complete prohibition of alcohol on board. Other companies, and this includes Chevron Shipping, do not have a prohibition of alcohol but they operate in strict accordance with the U.S. Coast Guard regulations, which provide that there should be no intoxication of any member of the crew or officers on board. There shall be no drinking four hours, at least four hours before going on watch, and a level of 4/100 of a percent is considered the threshold to intoxication, and tests may be made whenever the master feels that this prohibition has been violated.

Senator **Breaux**. Of course, if the master is the one who is violating the rule, it does not work, does it?

Mr. **Wyman**. We believe that complete prohibition is not the wisest approach. We believe that being moderate and allowing individuals to bring aboard alcohol themselves, in limited amounts where it can be consumed on board judiciously, is a much better approach than complete prohibition.

Senator **Breaux**. Have we not reached a point, though, where we are saying that that is not a good policy any longer?

Mr. **Wyman**. From the standpoint of Chevron, we believe in an openness with our people. If a problem develops we have a rehabilitation program, we are upfront in meeting this issue in terms of a part of life.

After all, six months of the year, a vessel is a man or a woman's home. And we feel that it is inappropriate to completely limit his or her living manner, or fashion of living. On the other hand, there are companies that completely prohibit the use or presence of alcohol on board, but as you and I both have seen, this is not necessarily the solution.

Senator **Breaux**. Do you allow alcohol on board your offshore rigs?

Mr. **Wyman**. Sir, I cannot really answer that. I do not know.

Senator **Breaux**. I can answer that for you. The answer is no.

Mr. **Wyman**. All right, sir, I have to accept that.

Senator **Breaux**. What is the difference? One is stationary and there is no chance of it moving; the other one is moving.

Mr. WYMAN. I think it is a matter of management and how management perceives the problem. In our view, we think we have got a good control on the problem, and we are operating in complete accordance with Coast Guard regulations, which do not prohibit the use of alcohol or the consumption of alcohol aboard ship.

Senator BREAUX. I am sorry, what was the last point?

Mr. WYMAN. The U.S. Coast Guard does not prohibit the consumption of alcohol aboard ship.

Senator BREAUX. Well, they probably do not prohibit it off your offshore rigs, but your company does. It seems like it is a very inconsistent policy from a standpoint of safety.

Mr. WYMAN. It depends on what works. Obviously, in some cases, as we have already seen, prohibition does not work. Now, does this mean to say that we should then prohibit it aboard all vessels? Mr. Chairman, I have not, I do not know that this is the solution here.

There must be a complete and open communication, with members of the vessel's crew, and an awareness and alertness to what is going on. If there is a problem, individuals must be free to come to shoreside management and say, "We may have a potential problem here," and then those shoreside must be able to take immediate action in terms of removing the individual from the vessel, checking out the situation and developing information that might lead to discovery of abuse.

Senator BREAUX. How does your company determine, in hiring a captain, what is his record in the past with regard to these type of potential problems?

Mr. WYMAN. First of all, we have pre-employment tests for drugs. With respect to alcohol, we check out our masters for drinking, DWI offenses. We check their license records with various automobile vehicle associations, the state vehicle associations.

Senator BREAUX. Chevron does not accept, on its face, when he says, "Do you have any, have you ever been convicted of a DWI?" and he says, no, do you check further?

Mr. WYMAN. We do check further, yes, sir. And the masters are in full agreement with this. They have no objection, and they are cooperating. We are not doing this behind their backs. We have been very open and forthright and candid with them.

Senator BREAUX. So your company obviously feels you do not need any new federal laws to allow you to check, before you employ someone, to check into arrest or other potential personality problems that may affect his ability to be a ship's captain.

Mr. WYMAN. I do not think we would object to any federal law along those lines. We certainly are using the access that we now have to automobile license records to our advantage.

Senator BREAUX. You heard the testimony of both Admiral Yost and Mr. Mark Delesdernier about the situation in the Mississippi River.

Mr. WYMAN. Yes, sir.

Senator BREAUX. I mean, it scares the hell out of me, quite frankly. It is a much more crowded situation and the chemicals and the things that go in and out that river are far more potentially explosive, even, than just crude oil.

Now, we do not have a vessel traffic safety system anymore. The Coast Guard closed it down because of a lack of funding from the

Congress. Would API support the reinstitution of a VTS, if it could be done through the employment of a user fee on those who benefit from the system?

Mr. **Wyman**. That is an interesting point, I think that the possibility of putting a VTS in that area ought to be studied and studied closely.

Senator **Breaux**. Why do we have to study it? Is there any doubt that that is a good idea?

Mr. **Wyman**. All right. Design one and put one in. If it will enhance vessel safety, it ought to be done.

Senator **Breaux**. Okay, assuming it should be done.

Mr. **Wyman**. Why would we single out that particular area for a user fee when you have at least six other systems in the United States that operate without user fees?

Senator **Breaux**. Oh, no, I am talking about making it universal.

Mr. **Wyman**. Oh. I cannot say for API how the membership would react. Let me just say, though, in San Francisco Bay, there was a time when it looked as though the vessel traffic system was going to be abandoned.

The operators in the area voluntarily came together and began to accumulate a fund which we volunteered to make available to the Coast Guard in order to keep the system open. That is how strongly we felt about maintaining the system in San Francisco Bay.

Senator **Breaux**. I mean, I would rather take the two cents a barrel that we have for an oil spill liability fund and put it into a VTS system, then we would not have to have the oil spill fund.

Mr. **Wyman**. That is certainly one way of funding it. I think there are some fresh ideas here that could be explored, Chairman. I am not turning thumbs down on it at all, because we do need—we do recognize the value of the VTS, and if it is a system that can be supported by the industry and will enhance vessel safety, let's look at it from a user-fee standpoint. I would encourage looking at it.

Senator **Breaux**. Thank you very much. Mr. Lott. Senator Lott.

Senator **Lott**. Thank you, Mr. Chairman. I will be brief. I am sorry I missed the testimony of Mr. Wyman and Mr. Thompson; I did have to go to work on a matter on the floor of the Senate. But I have enjoyed listening to your answers, and Mr. Landgrebe, I appreciated your statement and your specific suggestions.

Mr. Corrado, you talked about double bottoms and some of the other issues that have been brought up today, and said, in effect, that you did not think that was a very good idea. Maybe you had given some testimony in which you did point out some things that maybe you think we could do that would have helped to prevent what happened up there in Valdez, with the Exxon Valdez. Do you have a couple of specific suggestions that you would like to make?

Mr. **Corrado**. Well, our statement that Mr. Wyman made had a number of positive aspects. One was we supported vessel traffic systems, we supported full radar in them; we supported tug escorts, not necessarily in every jurisdiction, but certainly up in Alaska. Improved training, licensing and watchkeeping. Also, we support the concept that the Coast Guard should have authority to check state driver registries for alcohol transgressions, convictions and rehabilitation.

Senator LOTT. Well, okay, I did not realize that you were more or less going along with Mr. Wyman's statement. I thought maybe you had some specific things.

Mr. CORRADO. Well, we are together, and we did have many positive aspects in our statement. Double bottoms happened to have been a negative one. But we certainly support VTS, full radar, improved licensing and training, and we are certainly in support of the drug testing rules and probably whatever additional alcohol rule that the Coast Guard will come up with.

Senator LOTT. I am glad you support a VTS and the idea of taking a look at it in New Orleans is very appealing to me because we get a lot of the overflow trash from Louisiana all the time, and we would not want it to be oil that comes across the line over there.

Mr. CORRADO. One aspect about it, though, is its funding by user fees. In all honesty, I must say that the entire carrier industry, over the last eight or nine years, every time the administration has come forward with a user-fee program, up to this point, has opposed it. So it would be less than candid of me if I did not put that out on the table.

Now, obviously, the Valdez Exxon incident has changed a whole lot of things.

But I cannot tell you exactly what the position of the industry would be now with respect to user fees for VTS systems, but, it should be funded one way or the other. No question about it. And I think it would have been a lot safer up in Prince William Sound if there had been a VTS system working throughout and had radar throughout.

Senator LOTT. Thank you.

Mr. CORRADO. Thank you, sir.

Senator BREAUX. Gentlemen, we thank you very much. It has been a very helpful panel.

Carl, I did not have any questions. I agree with what you had to say in your testimony, so——

Mr. LANDGREBE. Thank you, sir.

Senator BREAUX. I thank all of you. You have been very patient and very helpful at the same time. That will conclude our subcommittee and the committee will stand adjourned until further call of the chair.

[Whereupon, at 4:10 p.m., the subcommittee adjourned, subject to the call of the Chair.]

EXXON OIL SPILL

THURSDAY, JULY 20, 1989

U.S. Senate,
Committee on Commerce, Science, and Transportation,
National Ocean Policy Study,
Washington, DC.

The Committee met, pursuant to notice, at 10:43 a.m., in room SR-253, Russell Senate Office Building, Hon. John F. Kerry (vice chairman) presiding.

OPENING STATEMENT BY SENATOR JOHN F. KERRY

Senator Kerry. This hearing of the National Ocean Policy Study Group and the full Committee will come to order. I would like to welcome our witnesses for the fourth hearing in a series of hearings regarding the Valdez incident. Obviously, today, our interest extends beyond simply the Valdez incident, because this appears to be oil spill season, and Admiral Yost, you have got more to handle than perhaps any commandant in history, with the Delaware River, Rhode Island Sound and the Houston Ship Channel.

I think Americans are asking more questions than ever before about the ability to ship oil safely.

We met, as you know, Admiral, immediately after the oil spill to discuss the reasons for it and the immediate containment failure. We met subsequently to have a hearing on the progress of the oil spill cleanup, as well as shipping standards and safety standards. Now we meet again today, as agreed upon, to review where that cleanup is and to see whether or not the goals and expectations are being met.

I might say that the Committee in the meantime has reported out legislation and we would welcome comment from you and others on the legislation if you so deem appropriate and if you are prepared to. That legislation seeks to redress some of the problems that we have found in terms of accountability, shipping standards, safety standards and so forth, and we think it is important. I believe that legislation is going to pass, and it is going to pass rapidly Senator Mitchell has guaranteed us that it will be a priority.

Today, we want to review where we are. When we were here in May, there were 1.7 miles cleaned in about 40 days, with a total 180-day span of time for the rest of the mileage. At that time we were dealing with some 400 miles that needed to be cleaned.

We now are over 700 miles that needs to be cleaned. To the credit of Exxon, they have increased the number of personnel as was discussed during that hearing. You said they needed more. They agreed, and they have in fact added a number so that there are approximately, I gather, some 10,000 people working and maybe 1,000 boats, ships, and vessels of various sorts. There has clearly been an increased effort.

The question we are going to have to ask today and that has to be put on the table—I know Senator Stevens has a particular interest in—is whether or not the promises made and the expectations created are in fact going to be realized. That was precisely why we said we would return in July, and it may well be that we will return again before the end of the cleanup.

I gather that some 100 miles outside of the Sound and approximately 70 miles within it are in treated stage and we are going to have to discuss exactly what "treated" means versus "cleaned up," because it is my understanding that the cleanup effort has actually moved off beaches that have been treated to the best extent possible. But that treatment has not meant cleaned and that with each tide oil comes back, or there is seepage, and those beaches within the area that were supposed to be "rendered pristine" are far from that particular state. So we also obviously want to assess the impact of environmental damage that exists here.

Let me just say, as a perhaps final comment, that while it is not the focus of this hearing, it cannot remain unstated or unspoken that the rash of incidents that have occurred underscore our current dependency and the importance of oil and the increasing trafficking of it. I think it is fair to say that the United States is really addicted to oil in a way that does not pay adequate heed to the need to be conserving and to be dealing with alternative sources of energy.

Senator Gore is here as a member of the Committee and has been one of the leaders in the effort to point out the problems of global warming. The dependency on oil is a dependency on fossil fuels, which is a dependency that increases that very problem which is the most significant environmental problem we have today.

So this is not just a question of oil spills and protection of the environment, it is really a much larger question that we are facing as an undercurrent of that dependency, and I think it is important that we continue to focus on that and make that part of our comments.

We look forward to hearing from you, Admiral. You have the on-scene commander from the Rhode Island Sound spill. I particularly want to hear from him. I congratulate him. I think it was his willingness to assume responsibility, precisely what command authority and his role is all about, that avoided the more significant problem there. His willingness to federalize in the absence of a willingness of the company to assume responsibility can well have prevented much more serious problems.

I personally congratulate him and you for that. That is precisely the kind of leadership that I think we are looking for. We look forward to hearing your comments about those spills in addition.

Senator Stevens?

OPENING STATEMENT BY SENATOR STEVENS

Senator Stevens. Well, thank you very much Mr. Chairman, and I thank you as Alaska's senior senator for your willingness to once again spend your time to explore the ramifications of this great disaster in our state.

We are close to four months, now, from the date of the spill. I want to say first to Admiral Yost publicly what I said to him yesterday privately.

I think the actions of the Coast Guard through the whole period of this spill and in the spills that Senator Kerry has mentioned in what we call the south 48 since the time of the *Exxon Valdez* disaster have brought great credit to the Coast Guard—and Paul, they have eliminated any opposition to our attempts to get you more money this year, so I think you should realize that all of your people have proved to the Congress the great necessity for keeping the Coast Guard prepared and ready to carry out its tremendous duties along our coastline.

I am pleased, Senator Kerry, that we are here today to hear, as I think, for the first time I see us not turning the corner but really starting down the long way to accomplishing the cleanup. The oil has weathered and the relationships have matured and I think you are going to see a different series of attitudes now towards the scope of the problem and the allocation of responsibility and trying to work out these enormous, enormous problems.

I have just spent time with Admiral Kime and others up in the Prince William Sound and will be back again in August and I think that it is important to note that there have been a whole series of members of this Committee and the House Committee up there now that the Coast Guard and Exxon and the State have visited with and explained various problems and positions on those problems and potential solutions.

We are developing new technology there now. I think—I rarely use the word exciting, but I think some of that technology is exciting for the purpose of getting at really well-understood and well-tried techniques, so that they can assist us in future spills. We do not have to wait this long to develop that technology, and I hope we are going to hear about some of that today.

But again, really, my thanks to you. Keeping the focus of this Committee on this problem and its persistence, I think, is helpful to all of us. It is helpful to report to the American people and it is particularly a very welcome thing for Alaskans to know that Congress is still interested in this problem, despite the passage of time, and I am pleased to welcome you back, Admiral, you and your colleagues and to thank you again for what you have done.

Senator KERRY. Thank you very much, senator, for your comments. Let me just say that, I think not only as a participant in the congressional process, obviously, but as an observer, I have always had this feeling that we are quick to come to these things and then the hullabaloo dies. The problems remain, and I think we have tried to be determined that we are going to continue a process here so that we really do learn something and we do not just turn our attention away as the summer days go and the fall comes. I am delighted to be able to join you in that effort.

Senator Gore?

OPENING STATEMENT BY SENATOR GORE

Senator GORE. Mr. Chairman, I would like to begin my opening statement by complimenting you as Vice Chairman of the National Ocean Policy Study. Indeed, you have led us to have three hearings now, the beginning of a continuing series to really dig deeply into the causes of this problem and what we might do to respond to the problem.

It is worth noting that since the last hearing three more oil spills have occurred, and the list includes not only those four, the *Exxon Valdez,* the Rhode Island Sound, Delaware Bay and Houston ship channel, but earlier this year a very, very serious spill in Antarctica occurred as well.

That area of policy is also within the jurisdiction of this full Committee, and that was an extremely serious spill—even though it is outside our awareness, usually, and television news crews do not make it down there, typically. Certainly the Coast Guard does not normally play an active role there.

But one of the most serious environmental problems we are facing has to do with the effect of the extra ultraviolet radiation due to the deterioration of the stratospheric ozone layer on the base of the food chain in the ocean; that is, the smallest plankton that are particularly vulnerable to this extra ultraviolet radiation.

The only study in the world to seek to determine the facts of that scientific concern was wiped out by the oil spill off Palmer Station in Antarctica, and so we have five oil spills of varying degrees of seriousness. All of them serious, all of them troubling.

We are told that the proximate cause of the oil spill at Valdez was that the captain of the ship had left the bridge, but when you look at the larger pattern it is obvious that the ship of state must have a captain at the bridge and that the Administration has to chart a course that will steer around this pattern of environmental degradation.

At the same time we have had these five oil spills the Secretary of the Interior has just formally proposed opening up vast new areas for new off-shore drilling. I think that is irresponsible. I think we need to concentrate on solving the problems that are so obvious and so troubling before we start opening up new areas to off-shore drilling.

The oil industry has, with the Interior Department, been less than candid about what is possible by way of cleaning up oil spills. We were led to believe here in the United States Senate that if an oil spill took place it could be cleaned up. There were contingency plans. We were prepared for every emergency. Well, now we know that was just a lot of hogwash. It was not believable at all.

The Coast Guard has been leading the way in making the country aware of how difficult this task is, what resources are needed, what support from the Congress and the American people is needed, and we want to back you up, Admiral Yost. I personally appreciate the tremendous hard work and personal attention you have been devoting to this problem but, Mr. Chairman, again I want to compliment you. I look forward to the witnesses and the testimony today.

Senator KERRY. Thank you very much, Senator Gore, and I thank you for your comments.

Senator Pressler?

OPENING STATEMENT BY SENATOR PRESSLER

Senator PRESSLER. Mr. Chairman, thank you for this opportunity to further examine the consequences of and impacts related to the March 24 grounding of the *Exxon Valdez* oil tanker in Prince William Sound, Alaska. The efforts of the National Ocean Policy Study Group to explore the events surrounding the Alaska incident, as well as the more recent oil spills off Rhode Island, Texas, and Delaware, are necessary and worthwhile. Americans across the nation, including my fellow South Dakotans, rightfully ask why these incidents have happened and what can be done to prevent reoccurrences.

Although South Dakota, situated as it is in the great Midwest, has never experienced the tragic environmental consequences of a major oil spill, citizens of my home state share the feelings of sadness and outrage over these tanker spills. It is my sincere hope that today's witnesses can provide answers to important questions on this issue rightfully being asked by Americans.

I want to join in the remarks of my colleagues that we are prepared to take what supportive steps our colleagues from Alaska and elsewhere suggest on this matter. The interest of my constituents is in the environment, the country. It is interesting, that the interest in Alaska and what happens with oil spills anywhere brings into focus how many Americans have environmental concerns to preserve our great and beautiful country.

Also, my constituents are very concerned about the price of gas, and diesel fuel and petroleum products for farm tractors, trucks and so forth and the spin-off effects this has. This has a practical effect. I do have to go to the Banking Committee where we are having a markup and a vote in a few minutes, but we are very interested and supportive in this matter.

I recently read a "Wall Street Journal" article, a long article not about this issue, I think about the pipeline—some of the things the companies had said they were going to do and did not do—and I have been increasingly disturbed at reading reports such as this.

But I commend the Chairman here and look forward to reading the transcript of the portions of the hearing that I do miss.

Senator KERRY. Thank you very much, Senator. Without objection, the opening statement of Senator Hollings will be included in the record.

[The statement follows:]

OPENING STATEMENT BY THE CHAIRMAN

Good morning. This Committee has convened for a third hearing on the *Exxon Valdez* oil spill in Price William Sound in Alaska. Our focus today is to evaluate the status of the cleanup operations. The cleanup must meet a September 15th deadline, which is less than two months away. Needless to say, each day until then is critical for its completion.

The circumstances behind this tragic event have been recounted often enough. Yet, retelling the causes did not prevent three subsequent oil spills from occurring last month on June 23rd and 24th. Though these spills were not comparable in size to the *Exxon Valdez*, they are not less chilling and alarming. We must thank the

Coast Guard, not only for its effort in overseeing the Alaskan cleanup, but also for federalizing the cleanup operations in two of these smaller spills.

Altogether, we should rightfully conclude that problems exist with the transportation of oil by water. These recent spills serve to highlight that fact. The old adage "oil and water don't mix" seems especially applicable in light of these recent events, but some people keep trying to refute it. Certainly, the 10,000 workers in Alaska trying to clean up the oil will attest to its truthfulness.

The problem at had is the cleanup of these spills. Each is no less important than the other, but our original intent in calling this hearing was to receive a status report on the Alaskan spill. So, let it serve as our focal point for broader discussion.

I want to thank Senator Kerry, Vice Chairman of the National Ocean Policy Study, for conducting this important hearing. I call on all my colleagues to join me in a thorough review of the cleanups in Alaska and other sites along our coastline.

Senator KERRY. Admiral, we are again, as I say, delighted to have you here. There is a lot to cover, and we obviously want to hear particularly from Mr. Stevens and Mr. Kelso. I hope you can stay around during that period. I think it would be helpful to us. If prior to your opening comments you would identify who is here with you, we would appreciate it very much.

STATEMENT OF ADM. PAUL A. YOST, COMMANDANT, U.S. COAST GUARD; ACCOMPANIED BY REAR ADM. JOEL SIPES, CHIEF, OFFICE OF MARINE SAFETY; CMDR. JAMES HULL, BUDGET OFFICE; AND CAPT. ERIC J. WILLIAMS, CAPTAIN, PORT OF PROVIDENCE, RI

Admiral YOST. Good morning, Mr. Chairman. I am pleased to meet with you and the other distinguished members of the Subcommittee to discuss the Coast Guard's role in response to the recent major oil spills in Rhode Island, the Houston shipping channel and the Delaware River, as well as to give you a status report on the Exxon Valdez oil spill.

I am accompanied today by Rear Admiral Joel Sipes on my right, who is Chief of the Coast Guard's Office of Marine Safety, Security and Environmental Protections; Commander James Hull on my left, of my Budget Division and to my far left Captain Eric J. Williams, Coast Guard Captain of the Port, Providence, Rhode Island, who as you have pointed out, is one of my superstars out in the field. I am delighted to have him with me.

I have a statement that I would like to provide for the record and I would like to summarize it at this point, if I may.

The Coast Guard responded to these four cases consistent with the various provisions of the Clean Water Act, the National Contingency Plan and a memorandum of understanding between the Coast Guard and the Environmental Protection Agency (EPA).

The Coast Guard Captain of the Port serves as the predesignated On Scene Coordinator for pollution incidents occurring in the coastal zone. In all cases where a spill occurs, the Coast Guard Captain of the Port investigates the cause of the spill. In these four spills, our normal investigative process is being followed and after-action reports prepared.

I will skip over comments on the Rhode Island, Delaware River and Houston spills; and will answer your questions on those spills later. For the *Valdez* spill as before, the Federal On Scene Coordinator's goal is that all shoreline segments will be treated before the expected onset of severe weather conditions in September.

By then, heavily and moderately oiled shoreline segments should be treated to a stable level. Lightly oiled segments should be fully treated. I would point out, I am not saying "restored," let alone "restored to a pristine condition."

Plans are being developed to evaluate the effects of winter weather on the oil that may remain. Before next spring, an evaluation will be conducted to determine the level of work required.

Mr. Chairman, the *Exxon Valdez* spill and the three recent spills in Rhode Island, Pennsylvania and Texas have served as startling reminders of the need to be ready and to have adequate resources to respond to such events.

Many lessons have been learned and many new initiatives have begun. We have initiated a thorough review of all port contingency plans. Many other areas which contribute to spill prevention, such as ship design, vessel manning and licensing, pilotage, and the Vessel Traffic Services, are now being carefully studied.

Congress and the Administration have proposed new laws to strengthen our ability to prevent and clean up future oil spills. Industry has proposed a substantial increase in response capability and a commitment to research and development. Though all of the efforts and new initiatives will continue to strain the resources of the Coast Guard, I remain fully committed to the work ahead.

Now, as you know, Mr. Chairman, this is the third hearing you have held and there have probably been at least seven other hearings in both the House and the Senate on this subject. Most hearings have talked about increased readiness, larger response teams, more cleanup equipment, more research and development, as well as examining contingency plans and vessel traffic systems. They have also suggested perhaps an increase in the number of Vessel Traffic Systems.

I would say to you that this is in stark contrast to the House markup of my budget last week, and frankly with my discussions with my Senate Appropriations Subcommittee Chairman yesterday afternoon. We are, in effect, in both the House and the Senate, dealing with budget levels hundreds of millions of dollars below the President's request for the United States Coast Guard.

I appreciate Senator Stevens' remarks when he just said that the events we have been through have removed all or many of the roadblocks to getting the Coast Guard more money. Senator Gore said, we want to back you up. It seems like 10 percent of the people never get the word. The 10 percent must be my Appropriations Subcommittees in both Houses, because I do not see any evidence there of the Coast Guard even getting the President's budget, let alone backing me up or removing roadblocks to getting us more money.

So on that happy note, Mr. Chairman, I will conclude my statement, and I will be glad to answer any questions you or the other members of the Committee may have.

[The statement follows:]

STATEMENT OF ADM. PAUL A. YOST, U.S. COAST GUARD, DOT

Good Morning, Mr. Chairman. I am pleased to meet with you and the other distinguished members of this subcommittee to discuss the Coast Guard's role in response to the recent major oil spills in Rhode Island, the Houston shipping channel, and the Delaware River, as well as to give you a status report on the *Exxon Valdez* oil spill. I am accompanied today by Rear Admiral Joel Sipes, Chief of the Coast Guard's Office of Marine Safety, Security and Environmental Protection; Commander James Hull, of my budget division; and Captain Eric J. Williams, Coast Guard Captain of the Port, Providence, Rhode Island.

The Coast Guard responded to these four cases consistent with the various provisions of the Clean Water Act, the national contingency plan, and a memorandum of understanding between the Coast Guard and the Environmental Protection Agency [EPA]. Under the national contingency plan, a Federal predesignated on-scene coordinator is assigned to ensure that appropriate response action is taken whenever there is a discharge of oil into the navigable waters of the United States or a release of hazardous substances into the environment. There are two established zones of responsibility, inland and coastal, for response action. The boundary between the coastal and inland zones is determined by joint agreement between the EPA and the Coast Guard and is defined in each regional contingency plan. A Coast Guard Captain of the Port serves as the predesignated on-scene coordinator for pollution incidents occurring in the Coastal Zone. The Coastal Zone is comprised of the waters in the Exclusive Economic Zone, extending approximately 200 miles offshore, the Great Lakes and specified ports and harbors on the inland rivers. The EPA provides predesignated on-scene coordinators for the Inland Zone. In accordance with a Coast Guard/EPA memorandum of understanding, the local Coast Guard Captain of the Port is the predesignated on-scene coordinator for all discharges of oil and hazardous substances which result from a vessel casualty or vessel transfer activity within specified ports and harbors of the Inland River System. The EPA normally serves as the predesignated on-scene coordinator for discharges which occur at industrial facilities, bulk storage facilities or hazardous waste sites, or from non-marine transportation casualties in the Inland Zone.

In all cases where a spill occurs, the Coast Guard Captain of the Port investigates the causes of the spill. In these four spills, our normal investigative process is being followed and after action reports prepared. Once finished, the reports will be reviewed by the program manager at Coast Guard headquarters, and necessary corrective actions taken. All of these spill investigations are in various stages of completion. Separately, these casualties are being investigated under the authority of the local Coast Guard officer in charge, marine inspection. This latter investigation is concerned with the cause of the casualty as an issue independent of the pollution incident.

The environmental damage resulting from these four spills has not been fully assessed. Environmental damage assessment is the responsibility of the Natural Resources Trustees which, in these cases, includes the Department of the Interior, the Department of Commerce, and the affected States.

THE SPILL IN RHODE ISLAND

At approximately 4:45 p.m., Friday, June 23, 1989, the Greek-flagged tankship *World Prodigy* ran aground on Brenton Reef just outside of Narragansett Bay, Rhode Island. The vessel was carrying approximately 8 million gallons of No. 2 home heating oil. Nine cargo tanks were damaged, and approximately 290,000 gallons of oil were released into the coastal waters of Rhode Island.

The Coast Guard Captain of the Port, Providence, was the Federal on-scene coordinator for the spill. At approximately 5:15 p.m., one-half hour after the spill, the Coast Guard federalized the spill because the insurer of the vessel was unable to contact the owner's representative for authorization to conduct the cleanup; however, by noon on June 25, the owner agreed to assume financial responsibility for the cleanup, but the Coast Guard retained Federal control to the end. Divers were on scene at 6:25 p.m., less than 2 hours after the grounding, to assess damage to the vessel's hull. Containment boom was placed around the vessel to contain additional leaking. The regional response team was activated. The on-scene coordinator requested the assistance of the Coast Guard strike team, the National Oceanic and Atmospheric Administration's [NOAA] Scientific support coordinator, and a salvage master from the U.S. Navy's supervisor of salvage. Barges were contracted to offload the cargo remaining on the vessel. Containment boom was strategically placed to protect sensitive areas. Cleanup contractors were hired to clean the shoreline impacted by the oil. Some shoreline pollution was reported. Placing boom around the vessel, evaporation of the majority of the oil, and an offshore wind minimized the environmental impact from this spill. The shoreline cleanup was accomplished mostly with oil absorbent material and vacuum trucks. The cleanup was completed on July 6, 1989, 13 days after the grounding.

THE SPILL IN HOUSTON, TX

At 6:20 p.m., Friday, June 23, 1989, the Coast Guard Captain of the Port, Houston, received a report of a collision between the Panamanian-flagged chemical tankship *Rachel B*, and the U.S. oil carrying barge, Coastal 2514, resulting in an oil spill in the Houston shipping channel. The *Rachel B* damaged its bow but released no oil. The barge suffered damage to three cargo tanks and released approximately 250,000 gallons of heavy slurry oil. The owner of the damaged barge accepted financial responsibility for the cleanup and hired a local cleanup contractor.

Coast Guard personnel were on scene at 8:14 p.m. and the pollution cleanup contractor began booming off sensitive areas at 8:25 p.m. Most of the spilled oil moved into the Bayport channel were it was recovered using containment boom, vacuum trucks, absorbent material, and hand tools. Cleanup operations were conducted around the clock. Much of the oil was recovered during unfavorable weather conditions created by tropical storm Allison which dropped more than 10 inches of rain in the area. On the afternoon of Friday, July 7, 1989, the spill was federalized as the owner opted not to complete the cleanup. The potential for a larger spill was averted by off-loading the cargo which remained aboard the tank barge.

THE SPILL IN THE DELAWARE RIVER

At approximately 4:46 a.m., Saturday, June 24, 1989, the Coast Guard Captain of the Port, Philadelphia, received a report that the Uruguayan-flagged tankship *Presidente Rivera* was hard aground and releasiing number 6 industrial heating oil in the Delaware River near Marcus Hook, PA. The insurer for the vessel assumed financial responsibility for cleanup and hired a cleanup contractor at 5:40 a.m. Coast Guard personnel were on-scene at 6:30 a.m. A NOAA scientific support coordinator provided a spill trajectory and EPA provided personnel support before 8:00 a.m. The NOAA scientific support coordinator was on-scene at approximately 1:00 p.m. Coast Guard strike team personnel from Mobile, AL, arrived in Philadelphia at 1:15 p.m.

Four cargo tanks were damaged and approximately 300,000 of the 18 million gallons of number 6 oil aboard the vessel had been released into the Delaware River. Number 6 oil is very heavy and thus, most of it sank below the surface which severely hampered early recovery efforts. The Coast Guard closed the river to vessel traffic in the vicinity of the spill to facilitate cleanup. Response actions included activating the regional response team; booming off sensitive areas; partially off-loading the vessel to barges, and moving it to the Sunoil dock in Marcus Hook, PA; containing and recovering floating oil; and cleaning the shoreline impacted by the oil. The free floating oil was recovered using skimming vessels; a fishing vessel with small mash nets; open ocean containment boom; small boats and hand tools; and absorbent material. Shoreline was cleaned using hand tools and absorbent material. Nine contractors, more than 800 personnel, over 60 boats, and 12,000 feet of containment boom have been used so far. Cleanup is nearly complete.

"EXXON VALDEZ" SPILL

In Alaska, we are now in the most difficult and labor intensive phase of shoreline cleanup. The Federal on-scene coordinator, Admiral Robbins, and his staff of more than 300 Coast Guard personnel, along with a large number of Federal and State employees, are providing direction and monitoring for the continued Exxon cleanup effort. The Department of Defense, through the Alaska joint task force, continues to provide two large Navy vessels for berthing of shoreline cleanup crews. Navy skimmers and booms are still being deployed, and DOD continues to provide general support for this effort.

In May, Exxon submitted their shoreline cleanup plan. After some modifications and a commitment to increase the number of personnel, the Federal on-scene coordinator approved the plan. Exxon has now exceeded the agreed upon level of 2,500 shoreline cleanup personnel. These "direct" workers and Exxon support personnel exceed 10,000 people. In addition, there are more than 900 boats and more than 60 aircraft being operated by Exxon.

Skimming of free or surface oil in the water is nearly complete. Current skimming is mostly of runoff from shoreline cleaning and of migrating oil, consisting primarily of mousse and tar balls.

Two types of shoreline cleanup are underway. The first involves manual procedures such as mechanical removal of congealed oil and oil debris, which leaves the natural shoreline relatively undisturbed. The second involves mechanical devices and other enhancement methods such as cold, warm and hot washing, removing oiled material and trenching. These methods can cause extensive distrubance to the immediate area.

The Federal on-scene coordinator, working with EPA, NOAA, the State and Exxon, continues to seek more innovative methods for shoreline cleanup. This includes small scale testing of chemical agents, tested and planned testing of various fertilizers that promote the growth of naturally occurring biological organisms which consume oil, and testing of hot water injection methods for treating subsurface oil.

The Federal on-scene coordinator continues to closely monitor and direct the cleanup operation. NOAA and the Coast Guard created a computer aided management model for the *Valdez* spill, dubbed, Valdez Cameo. The model takes into account the various shoreline types, the degree of oiling, and an estimate of work needed. This model has enabled the Federal on-scene coordinator to assess the results of the cleanup operation and make a real time evaluation of progress. Exxon has added a new task force in Prince William Sound this month and a sixth task force will be added soon.

The Federal on-scene coordinator, NOAA and the State are working closely with Native Alaskans to restore confidence in the quality of the fish and wildlife that Alaskans depend upon for their subsistance as well as to involve them more in the cleanup operation. Native Alaskans have joined the cleanup operation in many locations, participating in weekly multi-agency committee meetings and becoming members of the shoreline cleanup oversight teams.

As before, the Federal on-scene coordinator's goal is that all shoreline segments will be treated before the expected onset of severe weather conditions in September. By then, heavily and moderately oiled shoreline segments should be treated to a stable level. Lightly oiled segments should be fully treated. Plans are being developed to evaluate the effects of winter weather on any oil that may remain. Before next spring, an evaluation will be conducted to determine the level of work required.

Mr. Chairman, the *Exxon Valdez* spill and the three recent spills in Rhode Island, Pennsylvania, and Texas have served as startling reminders of the need to be ready and to have adequate resources to respond to such events. Many lessons have been learned and many new initiatives have begun. We have initiated a thorough review of all port contingency plans, and the national response team will look at these contingency plans and issue a report early next year. Many other areas which contribute to spill prevention such as ship design, vessel manning and licensing, and pilotage are now being carefully studied. Congress and the administration have proposed new laws to strengthen our ability to prevent and clean up future oil spills. Industry has proposed a substantial increase in response capability and a commitment to research and development. Although all of the efforts and new initiatives will continue to strain the resources of the Coast Guard, I remain fully committed to the work ahead.

In closing, Mr. Chairman, I want to recognize the important role that NOAA's scientific support coordinators play in our response organization. The scientific support coordinator is an individual from NOAA assigned to provide the on-scene coordinator with vital operational and scientific advice during a response evolution. This person is generally supported by a team of highly capable NOAA people from several scientific disciplines and has the capability to draw on, and coordinate, the knowledge available from a wide range of involved agencies, private sources, and academia. The scientific support coordinator synthesizes information and conveys it in useful form to the on-scene coodinator during a clean-up. The close relationship between the scientific support coordinator and the on-scene coordinator is important to effective response.

Mr. Chairman, this concludes my statement. I will be glad to answer any questions that you or the other members of the committee may have.

Senator KERRY. Thank you very much, Admiral. Needless to say, we do not want to and cannot turn this into a budget hearing, but I applaud your statement. I think it is an important statement.

I am glad you have made it, and I know I am joined by a number of my colleagues in feeling deep frustration over the lack of executive leadership and to a degree legislative leadership that is really addressing this question of funding.

You are not alone. If you want to talk about priorities, we passed a $2.7 billion drug bill last year and it has only been funded to the tune of $500 million, and there is not a higher priority facing this Nation.

The reason we were delayed in proceeding forward with this hearing was over a discussion of how this Committee is going to find $450 million additional dollars in order to meet the reconciliation target and, you know, the entire Congress frankly is floundering over this question of funding for countless numbers of programs.

I hope we are going to meet the responsibility. I will vote for that money for you, and I know the others will join me here. But the question is, finding the larger pool of funds that are going to meet all of these needs and make it happen.

Now, on the question facing us, I do not think there is an American today who is not sitting in his city or home or farm, or wherever they live—fishing port—and saying, what the hell is going on? Who is in charge of these ships? What is the system that is set up to try to safeguard against these things happening?

You have got some guy in a barge, in a river, passing, and they hit and they rupture and they spill. You have got another guy running aground in an area where it is really hard to run aground, knowing the basics and fundamentals of navigation—and you would agree with that, correct?

Admiral YOST. Absolutely, Senator. Extraordinarily hard.

Senator KERRY. Then you have got another ship, I guess in Delaware, runs aground again, and the first question that has to be asked, you said you have learned some lessons, and we have learned some lessons. What are those lessons and what have we done to guarantee that these things cannot happen?

Admiral YOST. That is a very far-reaching question. Let me just summarize.

One of the lessons we have learned, and some of them we have learned over and over again is that almost every major accident at sea, human error is involved. Seldom do we have a major accident that is purely the fault of failed equipment or failed procedures. Human error is almost always involved, and certainly in these last four spills, that has been demonstrated time after time after time.

Our response to human error has normally been better equipment, more response, more safety, etcetera, and we seldom find a way to get to the human error—the man on the bridge at night or even in the daytime who makes an error or mistake that causes untold damage. We are working on the equipment: better ships, double bottoms, double hulls, better radars, increased watch standing, and increased Vessel Traffic Systems (VTS). We may be looking at a very high-priced solution to a somewhat simpler problem of how we correct human error.

We have never found out how to correct human error, and I do not want the response to be so expensive in areas that may not have a major effect on correcting the human error.

Senator KERRY. There are new navigational systems. I saw one over the course of the weekend which just staggered me as a Navy person and navigator. It is a laser readout on a CRT where you can actually position your boat wherever you want, find out the precise location and course to port. It reads out in color with a chart precisely where you are.

Most 10, 11, 12-year-olds who are used to playing Nintendo games would have an extraordinarily easy time navigating a ship through a channel on these. I mean, is that not accurate? Should we require that each of these ships have this?

Admiral YOST. I think that anytime we can better the equipment at any kind of a reasonable cost, we should. And if that kind of state of the art is available, I am sure that the big shipping companies are going to use it. They have fabulous equipment on the bridges of these modern tankers.

Senator KERRY. Then why the failure?

Admiral YOST. Well, that is what we have got the National Transportation Safety Board laboring with, and it will take them the better part of seven or eight or nine months, I am sure, to come up with their report. I do not know whether it will be definitive on that point or not.

The failure happened to be in either a third mate or a master or some combination of the two. I have not seen any evidence yet that would lead me to believe it was a failure of equipment or the ship.

Senator KERRY. Now, with respect to the *Exxon Valdez*, there is a report that came out, of course, this weekend or week. There are two reports. One is a 100-page report from the State of Alaska assessing what happened, and the other, I think, is a 16-page report response from Exxon.

I know that Mr. Stevens and Mr. Kelso will want to comment on this, but I just would initially like to ask you.

The conclusion of this report says that the grounding of the *Exxon Valdez* resulting in the single most damaging oil spill in United States history was the product of human and corporate failure of catastrophic proportions. The first blame they lay on the master of the ship for his nonpresence, but they say that contributing to the cause of the accident was the failure of the Exxon Shipping Co. (ESC) to properly monitor and supervise the activities of Captain Hazelwood. And contributing to the environmental damaged caused by the oil spill was the failure of Alyeska Pipeline Service Company to respond to the oil spill in accordance with the terms of its approved oil spill contingency plan.

Do you have any comment on those conclusions?

Admiral YOST. This is the first time I have heard them. I have not seen the report, and I should not comment on the conclusions of a report I have not read.

Senator KERRY. Now, with respect to the cleanup which is of principal concern to us as we meet here today, the last time we met in May we had a targeted goal, correct?

Admiral YOST. Yes.

Senator KERRY. And what was that goal?

Admiral YOST. The goal we have had from the beginning is to treat all of the miles of affected beach prior to the 15th of September.

Senator KERRY. Now, when you say "treat," is that a refinement of the term "cleanup" that we were hearing previously?

Admiral YOST. If I said "cleanup," before, I probably should have said treat. I have said from the beginning that the beach in my view cannot be restored where it has been heavily oiled. It cannot be restored by man this summer.

I think it is going to be restored by Mother Nature, and I think it is going to take a lot more than this summer to have that done. I do not know whether we are talking two years or whether we are talking 12 years, but treat means to remove all of the oil that man can remove this summer with the applications that we have available before the 15th of September. We will then wait and see what it looks like next year. If more treatment is needed, the same would happen next year and as long as it takes to stabilize that beach and to treat it to the extent that it can be done effectively and economically.

Senator KERRY. Well, I am troubled because I think that for the first hearing—let me just read back.

There is a consistent reference to the notion of cleaning up the beaches back to the point that they really were well, maybe not pristine, they were certainly back to a point where people could use them and the blight, at least visually, was removed and so forth.

Is it fair to say now that there has to really be a reassessment of that judgment?

Admiral YOST. Well, maybe so. I cannot remember my exact testimony on that day or whether I was a little more optimistic then than I am now. I think that from the beginning, however, I have talked about getting on those beaches, putting my hands in oil down to three feet in some of those beaches, and despairing of this beach ever being restored or brought back to a pristine condition in this summer time frame or maybe for years.

I think we must attempt to stabilize the beach to the point that wildlife and fish are not going to be damaged in the future by the oil that is left on that beach. That is what treatment means to me—that oil is not going to continually wash off the beach and oil other beaches. It is not going to be so heavy that it is hurting wildlife using the beach, and it is not going to put toxicity into the water column. That is probably a rough definition of "treat."

We are going to be hard-pressed to get that done to all the hundreds of miles of affected beach by the 15th of September.

Senator KERRY. Where would you say we are with respect to the treatment effort, then, relative to where we said we would be in May?

Admiral YOST. I think that we are in relatively good shape, and I use "relative" only because I have put a chart up here that was dated about the 15th of July, and that chart shows how much beach treatment has been completed, which means the Coast Guard in consonance with the Regional Response Team, including the State of Alaska, has agreed that that beach has been treated to the extent that we are going to be able to treat it this summer, and the red line you see is the goal that we had in order to complete treatment by the 15th of September.

In my view in the heavy blue we are slightly behind that goal as of the 15th of July. My concern at that time was not so much that we were slightly behind the goal, but that the slope of the curve did not match the slope of the red curve. That is, we were not completing fast enough.

Since that time I see evidence that the slope of the completion curve, the dark blue is now roughly matching the goal curve. It is coming up very, very smartly, and so I am not panicked.

I think that Exxon is doing a good job. They are picking up the pace. They are slightly behind, but they are in a slope now that matches where they need to be in order to complete, and they have got a fighting chance of completing this by about mid-September.

Senator KERRY. When you say "completing," does that mean the 737 miles?

Admiral YOST. Whatever is oiled, and it is somewhere in that vicinity, and it changes because we are getting new beaches oiled almost on a daily basis in the Kodiak region, and so the number of miles is changing. But, yes, I am talking about the total mileage that is somewhere between 400 and 800 depending upon who is counting.

Senator KERRY. Now, let me understand this because Senator Stevens may not share quite the same recollection, this whole question of treatment I just ran into when I read the testimony last night—in none of the prior hearings that we have had has this word "treatment" been used. This is a new term or art form. Am I accurate in that?

Admiral YOST. I think you probably are. What I said before was "cleanup," but we never get to a pristine state. I have now equated that to the word treat.

Senator KERRY. Now, the average person when they hear the word "cleanup" presumes they could walk on the beach, that they are going to be able to launch a boat and not get oil all over the bottom of it and so forth, correct?

Admiral YOST. Well, I do not know what the average person does. The average person who tells their kid to clean up their room probably does not expect it to be pristine, so I do not know what the average person does, but we are definitely not going to get the pristine beaches.

Senator GORE. My kids "treat" their rooms.

Senator KERRY. I wish I could get mine to "treat" or "clean up." What I am getting at is that this is not an area that in the dead of winter anybody is going to be doing that anyway, but it is an area where it is important that you can go out on a beach; you are not going to leave footprints of oil.

The fact is if you dig in here slightly, you are going to come up with oil.

Admiral YOST. On some of these beaches, I am afraid that is going to be the end result, that even after this summer is over, I am going to be able to go back there and dig down with my hands and find oil on some of those beaches. And with a high winter tide, it is possible that the oil may lift up and deposit on top of those rocks.

There has been a thought of perhaps cleaning literally millions of tons of rock, and I said recently to the Federal On Scene Coordinator that it cannot be done. You cannot remove millions of tons of rock from a beach, clean it, and then replace it. It is just physically impossible. And so I have resisted any thought of having Exxon do that. I do not think it is possible.

Senator KERRY. Well, I appreciate your candor on this because I think it helps us to understand and perhaps will motivate some to want to redress some of these other issues we are talking about to prevent this from happening because it is clear that the scars of this injury are going to be visible and felt for some time to come.

Are there any other environmental damages that at this point in time you have a clear understanding of or can make predictions about?

Admiral YOST. I think the environmental damage is considerably less than we feared that it could be. There is no toxicity in the water. We have not found any permanent damage to fish, although many fisheries have been closed because of oil in the water column that fouled nets, fouled gear and fouled catches. So a lot of the fisheries have been closed with immense damage to fisheries, but there is no long-term damage to the fish or to the water column.

There is long-term damage to the beach and the organisms on the beach, particularly in the inner tidal zone. The extent of that damage is unknown at this time, and it will be studied for years by scientists.

I think that we are fortunate that a very small percentage of the mileage of beach in Alaska has been affected. In other words, Alaska is not a devastated state. It is not a devastated area. It does not look like the moon when our astronauts walked on it. It is a viable, thriving wildlife and people area. But the damage is significant, and it will be there for a long time.

Senator KERRY. Senator Stevens.

Senator STEVENS. Thank you, Mr. Chairman.

Admiral Yost, you did not read your full statement, and I appreciate the time constraints, but I am very pleased to see your statement at the closing of that prepared statement concerning the relationship of NOAA to your response organization, and that has been my impression, too.

I think specifically David Kennedy, who has been in the forefront of that activity as a NOAA scientist, has been highly capable as you have indicated, and I am delighted to see that you are giving them credit, and I hope that we can find time in the next hearing to have NOAA come forward and tell us some of their conclusions about the long term scientific results of this spill.

Let me say to my good friend from Tennessee that my experience as a father of six is if a kid's room needs to be cleaned up, his mother usually does it, and Mother Nature is getting tired up there. I wonder about the September 15th deadline.

Could you tell us what is magical about September 15th? We have had long Indian summers in Prince William Sound in the past, and we have had very short periods. We do not know yet what is going to be. Maybe someone has got a crystal ball. I have not seen one yet. But what is magical about the September 15th deadline?

Admiral YOST. I do not think there is anything magical about that date. I would say there is a discussion between Exxon and myself, Mr. Bill Stevens, who you will hear from later, and myself. We have discussed this as late as last evening. He is running a major operation which he can tell you about, and he needs to know from an industrial point of view when he demobilizes this operation. He feels he needs a set date to do that. And he is using the 15th of September.

On the other hand, I am aware that Mother Nature does not come in and suddenly close the door so that you cannot walk through it on the 15th of September. And if we were to get a mild winter and late winter, I would want to see work done as late as can be done, even if some of the major equipment had to be demobilized on a set schedule.

I realize you cannot wait until the last minute and look at the weather in the morning and say today we are going to demobilize. He has got 10,000 people up there, and a multi-million dollar, maybe a billion dollar, amount of equipment that needs to be demobilized. So he and I are still discussing this in a very reasonable way on how much can be done after the 15th of September, and we are not in full agreement yet.

Senator **Stevens**. Well, I will address the questions to him further, but it does seem to me the cost of the mobilization next year is going to be horrendous as compared to the cost of keeping this effort going this year, and that every gallon of oil that is recovered this year is a gallon that is not going to move to another beach by next year because it is not going to disappear.

I have the feeling that we ought to be doing more in the way of some scientific experimentation. I am not suggesting that we do what Norway did the other day and drop a million gallons or however many barrels it was they put in the water and see about how to pick it up, although I do not think we ought to be afraid of that in the future sometime, but I do think that what we have got to think of now is how we might learn more from this activity of cleaning up, and I would urge that, as I have privately, that we find some way together with Mr. Kelso's people and the Department of Environmental Conservation and Mr. Stevens' people in Exxon of setting aside additional areas and trying some definite experiments.

I visited the one in terms of the aerobic activity there with the fertilization of the existing bacteria. That, Mr. Chairman, is something you should see. I mean, it is an experiment that EPA has done with Coast Guard people and with Exxon's financing.

I think that that is leading into a wholly new area. I understand that Mr. Reilly of EPA is going up there to see that himself in August, and I really think it is one of the major milestones on the scientific side, but there are still some other things that could be done, I think, to try to recover the oil.

Mr. Chairman, the oil that the Admiral is talking about and I am familiar with, if you walk and look at the beach, you will not see oil. When you step on it, it oozes up around your feet.

Now, that is the great problem of this area. It is the oil that has sunk down into these beaches. The tide is coming and going, but it is not going down to pull out that oil yet, and it will not until the water table starts rising, and it is going to be pretty tough to deal with that.

I would hope that we can get some agreement with the State and with Exxon and really conduct some experiments that are meaningful. The scientific community has expressed interest in doing so, and I hope we can do it.

Admiral YOST. Could I respond to that for just a minute, Senator?

Senator STEVENS. Yes, sir.

Admiral YOST. I had a very positive meeting with Commissioner Kelso last evening and a discussion again with him this morning on the phone. We discussed the bioremedial operation. We discussed surfactants, which are cleansing agents, and in those two areas he was very, very forthcoming. I sent a message to my federal On Scene Coordinator this morning telling him to go forward, with a couple of caveats that Mr. Kelso made, with some bioremedial treatment over large areas and with surfactants over large areas. I am very encouraged with what we thought might be a roadblock from the State of Alaska. It just did not exist, or certainly at this point in time, does not exist.

Senator STEVENS. Well, that is wonderful news. I notice that you have your specimen bottles with you, Admiral.

Admiral YOST. Well, those I think belong to Mr. Kelso. I know my holding tanks are not that large.

Senator STEVENS. You had some when you came to visit me. Do you have any of those with you today?

Admiral YOST. I did not bring them today. I wish I had brought them today. Mr. Kelso, I think, is going to show those.

Senator STEVENS. Well, Mr. Chairman, the Admiral has some rocks that were taken from beaches that were "treated" and some that were "untreated", and it is a nice interesting thing to try and understand this new term. I think it is better than the one we were experimenting with for a while, which was "environmentally balanced".

I did not quite adopt that one either, but I share the Chairman's feeling that we ought to have some understanding about what the standard is going to be when we are finished.

But, lastly, we have, as you know, reported this legislation we hope to have passed, and in that we will create an institute to start this long-range study of the impact of this spill on Prince William Sound and the area outside of Prince William Sound that has been impaired by the spill.

I am getting more concerned about the area outside of the Sound, in terms of this operation for cleanup, than inside. Inside, as I went through there on my last trip, there is a massive effort, a series of task forces, and it seems that the oil in places like the Barrier Islands that we talked about before and down along the side of Katmai is constantly on the move now to other beaches, and we have still found no way to contain that. I guess there is not any way to stop it from moving other than to get the oil up.

Are you satisfied now with the efforts outside of the Prince William Sound of the Exxon Company and its employees to try and deal with that problem outside of the Sound?

Admiral YOST. There is more dissatisfaction outside the Sound than any place else in this oil cleanup process. That is not necessarily the fault of Exxon or not fully the fault of Exxon. We have got oil still moving around outside the Sound.

The people who live there depend on fishing, many of them for subsistence substance; they depend on fish for their food. And as this oil moves around, it is affecting their livelihood and their whole quality of life. And they, as you know, Senator—you represent them very well—they are very, very unhappy.

They have sent me a subscription to the Kodiak Daily Mirror, which I now get on a daily basis. Now, it is not the Washington Times, it is not even the Washington Post, but it certainly portrays the frustration of the people who live in that region; and they are very frustrated.

The problem is we are chasing the oil. Exxon is chasing the oil. People are frustrated. I think Exxon is working hard on that issue. I have talked to Exxon more on that issue in the last several weeks than I have on the oil inside Prince William Sound. It is obviously the major problem in perception and in trying to catch up with the oil that we now have left in Alaska.

Senator STEVENS. Well, if there is any place that is going to be hit by storms this winter, it is going to be the area the oil is moving into, and that just means even more beaches oiled. I do not know that we have got any—I will ask Mr. Stevens again—but it does seem to me that the operations outside of the sound are dealing with oil that has no natural containment.

In the sound, as it moves from beach to beach, it is still within the sound. And we are making some progress, although it is not totally satisfactory, but we are making some progress in the sound.

I really am frustrated and disappointed, and I think everybody is, concerning what can be done outside of the sound. And I hope that we can find some way to address more attention to that.

Now, I am right, am I not, that the mileage of beaches to be dealt with now is greater outside the sound than it is inside the sound?

Admiral YOST. It probably is, sir. They are considerably less heavily oiled, but the oil is still moving, and the beach that is cleaned today is oiled tomorrow for the first time. The residents there are incensed and angry and frustrated when this happens. Yet, we cannot seem to catch up with this oil and get it out of the water column so it does not move on to a new beach or move from an oiled beach onto another beach. It is highly frustrating.

We have treated a lot—Exxon has treated a lot—of beaches outside of Prince William Sound, but the people clearly feel they are not doing it fast enough; they are not doing it effectively enough; they are not hiring enough Alaskans; they are not compensating rapidly enough. It is just high frustration.

I sympathize somewhat with Exxon in this, because I think that they are trying. But their efforts fall far short of the perceived needs of the people. And the Coast Guard tries to be the honest broker.

In this particular paper, for instance, I see an article that says Exxon decided to donate $20,000 to the Kodiak Chamber of Commerce, and Exxon says we want to be a good community participant. We want to join you. And so they are doing a lot to make it work there. But there is a high level of frustration, and it is not working because nature is not cooperating very well.

Senator STEVENS. Let me join in commending Captain Williams. I was sitting in Alaska, having just visited Prince William Sound, when I saw you on the television and heard your ultimatum to the captain of that vessel, that if they did not react within your time limit, you were going to take over the total operation.

I think that is the kind of action that we expect of our Coast Guard officers. And you are a fine example, sir, and we are pleased to have you here today. Thank you.

Captain WILLIAMS. Thank you, sir.

Senator KERRY. Thank you very much, Senator Stevens.

Senator Gore.

Senator GORE. Thank you very much, Mr. Chairman.

Admiral Yost, we have had these five oil spills. Let me concentrate on the four that you have paid personal attention to.

How many of the tankers, how many of these four tankers had double bottoms?

Admiral YOST. The chief of my Office of Marine Safety, Admiral Sipes, tells me zero.

Senator GORE. None of the four had double bottoms. Is it true that you have an internal Coast Guard report which concludes that if double bottoms had been used on all four of these tankers that very little, if any, oil would have gotten into the water?

Admiral YOST. Well, that is not exactly true. We have an internal Coast Guard analysis of the Exxon Valdez done by one of our naval architects; who is a graduate of the Coast Guard Academy and has a Master's degree in naval architecture. She did a thorough analysis within the time that was allowed her and reported that the vessel would probably have lost about half the amount of oil it did if it had double bottom.

Senator GORE. What about the other three?

Admiral YOST. We have not done the analysis. In order to do that, you have got to get a good damage assessment of the ships, how far the penetration went up into the bottoms; if those ships had been constructed with double bottoms, where they would have been put. There are a lot of assumptions made before you can get to the bottom line.

Senator GORE. No pun intended.

Admiral YOST. No.

Senator GORE. In other words, none of the four ships had double bottoms?

Admiral YOST. That is true.

Senator GORE. If the *Exxon Valdez* had had a double bottom, according to your internal report, the amount of oil spilled would have been cut in half. Presumably the other three oil spills would have been either prevented or at least been mitigated.

Should we not require double bottoms?

Admiral YOST. Well, as you know, we went to the international arena some 10 years ago with instructions from the Administration, and direction from the Congress, to negotiate double bottoms. In the International Maritime Organization we were unable to negotiate, on an international basis, double bottoms.

What we did negotiate was double bottoms, or strategically placed ballast tanks, that would protect the side hull of the vessel. We felt that that was equal to double bottoms in the overall accident scenario.

Senator GORE. Would that have made any difference with the *Exxon Valdez*?

Admiral YOST. No, it would not have because that was a grounding. But most are not groundings; most accidents are collisions with something other than the bottom. And double sides then, in that case, are usually much better than double bottoms.

Senator GORE. What about both?

Admiral YOST. Both are better.

Senator GORE. Double bottoms and double sides?

Admiral YOST. Double bottoms and double sides. And what would be even better than that, to be a little bit silly, is a ship that carried one gallon of oil in a protected tank that was all double sides.

Senator GORE. But we are not talking about that. We are talking about a measure that is estimated to increase the cost of tankers about 5 percent.

Admiral YOST. I do not have that figure. Do you want to discuss that?

Admiral SIPES. That is approximately so.

Senator GORE. Now, to increase the cost of building tankers by 5 percent and in return get the single most important measure, the single most important protection against these oil spills, it seems to me is a reasonable tradeoff.

Now, where is the *Exxon Valdez* right now, incidentally? Is it still floating in circles out in the ocean because the bottom is still not sound enough to bring it into port? Is that still the case? Is it still out there?

Admiral YOST. Yes. I talked to Admiral Kime this morning. The vessel is about 15 miles off San Clemente and between San Clemente and the mainland. She has plates that are hanging down, some of them 65 or 70 feet down. One plate alone weighs about 35 tons.

They are doing chemical analysis of exactly what is in the tanks. The State and Exxon have worked through the night to arrive at an agreement under which the *Exxon Valdez* could be brought into California waters and have the repair work done.

So we are in a stable situation there. It is not a problem at this time.

Senator GORE. But it is sort of like the garbage barge. It cannot put into port anywhere.

Admiral YOST. Well, the only port it has asked to go into is in California, and they worked through the night making an agreement under what conditions it could move into California.

Senator GORE. How long has it been circling out there?

Admiral YOST. Well, it has been out there for the better part of a week while they try to stabilize the discharge from it, and that has been done.

Senator GORE. When is it expected to come into port?

Admiral YOST. I think we are a couple of weeks away from that, because it first has got to go into anchorage in San Clemente in the deep water anchorage, to have some of those plates cut off. That is going to take some time.

Senator GORE. Well, let me just say on this issue that I know double bottoms are controversial with the industry, and I know the industry has been strongly opposed to any requirement for double bottoms. But we have gotten to the point where they are going to have to be required.

We are having these oil spills right and left. The internal reports tell us that this is the single best thing that could be done to minimize the damage. I really think that we ought to move to require them.

Admiral YOST. Senator, could I respond by saying I agree with you that double sides and double bottoms are the single best thing that can be done to prevent oil spills. Now we need to negotiate that at an international level, because very little of our oil moves in U.S. bottoms. And we will go and do that.

We are now studying double bottoms. We are restudying it to come up with more valid data. And when we have that report out, we will give it to you. And if that still remains the best way of doing it, I agree with you, we ought to try very hard to negotiate that on an international basis.

Senator GORE. Now, let me come back to this word "treatment." Who came up with the word "treatment" as a measure of progress along the coastline? Is that a Coast Guard term?

Admiral YOST. I do not know whether we did it or whether Alaska did it or whether Exxon did it. They are all working together there, and I think there is frustration shared.

Senator GORE. Well, it is your graph. Is that your chart?

Admiral YOST. It is.

Senator GORE. Now, in selecting the measures there, you are using "treated" instead of "cleaned up."

Admiral YOST. Well, I am. I am looking at the chart to see if I have the word "treated."

Senator GORE. You do not, but it has just seeped into the assumptions, the way the oil seeps into the beach. It is part of the assumption now, and yet it is, as the Chairman said, not equivalent to clean up.

Admiral YOST. I could call it clean up, but then I would have to define the term. I have to define "treated."

Senator GORE. I understand, and I am not criticizing you for Orwellian terminology. I am not criticizing you for it, but I am trying to point out, as the Chairman did, that the shift in terminology from "clean up" to "treat" is a recognition that it cannot be cleaned up, that it is impossible to clean it up.

Admiral YOST. Yes.

Senator GORE. Now, the administration would like to, it says, clean up the drug trafficking in this country, but instead it has decided to treat it. It talks about cleaning up the budget deficit, but instead it is merely treating the budget deficit.

The Secretary of the Interior again went out to California a few weeks ago and visited the location of a new scenic area where a Canadian company proposes to put in a new mine. And in response to the question of what to do with the piles of waste tailings in the scenic area, he said that one terrific idea would be to paint the waste tailings the color of the surrounding scenic area—kind of a Toon Town environmentalism approach, the Roger Rabbit solution, paint the problem. That is what I would call treating an environmental problem rather than solving it.

Now, what is the lesson in all of this? It seems to me to be very clear. Rather than congratulating ourselves on the progress in treating the beach—and it is not unimportant; it has some genuine meaning, and you all have worked hard to get the progress in treating the beach. But let us not get so congratulatory about treating it that we overlook the fact that we are giving up on cleaning up. Not because you would not like to see it cleaned up, but because of the single most important point in all of this: we have learned from this oil spill that a spill like this cannot physically be cleaned up. That means that prevention is the only effective strategy, if your goal is to have clean beaches.

Now, with that lesson so clear, I do not understand how the administration can, in the face of all these oil spills, one right after another, propose to open up vast new areas for offshore drilling. I think it is an environmentally irresponsible proposal.

Now, that is not, again, not a proposal that you have made. It is not something that you have to answer. And I have nothing but praise and commendation for the hard work that you have been doing. But we have a responsibility in facing policy to hear what you are saying, not just the progress but the assumption that clean up cannot be done.

Thank you, Mr. Chairman.

Senator KERRY. Thank you very much, Senator Gore.

We want to move on to the next couple of panels, and Admiral, I would like you, if you could, to hang around.

Captain Williams, could you give me the scenario that led up to your decision that you had to federalize? What happened? About 4:45 p.m. the tanker ran aground; with 8 million gallons and 2.5 million or so spilled, correct?

Captain WILLIAMS. Yes, sir, that is correct.

Senator KERRY. Could you pull your mike a little closer to you?

Captain WILLIAMS. I am sorry. About 4:45 p.m. the vessel did go aground, spilling oil. You could smell it all over Newport and the surrounding area. I had a local Coast Guard unit rush to the scene very quickly, since they grounded only a mile away from the Castle Hill station. I had a talk early on with the attorney who represented the vessel, and he felt he could not at that time take responsibility for the spill. And so it was fairly simple for me to say okay, it is mine; and so within an hour or so we federalized the spill.

Senator KERRY. Was there any hesitation in your mind about your taking on something that was going to get you into more than you could cope with or put responsibility on you that was going to come back to haunt you?

Captain WILLIAMS. No, not really. I am the designated On-Scene Coordinator, and when I first reported in to the Providence unit, I told my people to wait no more than 30 minutes to federalize the spill, if we had to; and I told that to anybody who cared to listen.

Senator KERRY. What made you decide that? Why did you feel you had to take that kind of choice?

Captain WILLIAMS. Well, containment is the key in any kind of a spill. Each one is a little bit different than the other ones, but the quicker you can contain a spill, the better your chances are of mitigating the damage.

Senator KERRY. Was it also brought about by a feeling that the other folks—that leaving it to the others was a way of leaving it to become a larger disaster, that you knew you had the capacity and the expertise?

Captain WILLIAMS. Well, I felt that we could take care of it. Some of these——

Senator KERRY. I am giving you a chance to get the Admiral's budget pumped way up here.

Captain WILLIAMS. Well, of course we need more money, yes.

We felt we could proceed fairly well, and we had terrific cooperation from the State, and from NOAA, and from the other Coast Guard units around the area, and we just pulled together. Now as the bills are rolling in, I am getting more nervous, but we had to take action when we did.

Senator KERRY. Well, I do not think that the bills should be a deterrent. I would not be nervous about them. I think you did the appropriate thing. I mean that shoreline is cleaned up now, is that not accurate?

Captain WILLIAMS. That is correct, Senator.

Senator KERRY. And part of that was providential. Nature had a certain role to play, did she not?

Captain WILLIAMS. Number two oil evaporates much more quickly than the crude in Valdez. That does not evaporate at all, as far as I know, but number two oil did evaporate in the sun, and the weather was on our side. Everything was on our side up there.

Senator KERRY. Tides, currents, winds, the whole ballgame?

Captain WILLIAMS. Winds brought the oil back and forth. Sometimes we had oil back on the beach, but it was a light oil that we could clean off.

Senator KERRY. Well, again, we congratulate you, and particularly, as a New Englander, I am grateful to you for having moved quickly and done well. And we are pleased that we are not sitting here coping with an analysis similar to Alaska. And I want to thank you for that.

Captain WILLIAMS. Thank you, sir.

Senator KERRY. Senator Gore has reminded me of a question that I wanted to ask you. A requirement that all oil tankers serving U.S. ports ought to have Coast Guard-approved contingency plans, any oil tanker from any particular nation coming in.

I gather that the oil tanker, the Greek oil tanker that ran aground in Rhode Island Sound was absolutely, totally and completely without any contingency plan or capacity to react to this whatsoever. Is that accurate?

Admiral YOST. It is probably accurate. These vessels need to have a contingency plan that tells the crew what to do, how to do it, who to notify, methods of reducing the oil flow, and those kinds of things.

It is unlikely that the crew itself can mitigate oil once it gets into the water, or have booms they could deploy, or skimmers they could pick it up with. The crew ought not to have any responsibility for that.

Senator KERRY. Given that reality, Admiral, these kinds of contingency plans are not expenditures, correct?

Admiral YOST. No, they are not.

Senator KERRY. Therefore, picking up on what Senator Gore pointed out with respect to this question of prevention, do you have the capacity, do we need to undertake it to say that no foreign vessel is going to be allowed; you are going to block any foreign vessel carrying oil from coming into port without a contingency plan from this X day forward? Give them a month and tell them to have it.

Admiral YOST. We are a port country. I think we can control our ports in some reasonable way, and that sounds quite reasonable to me. We now require them to have proper charts before they come into the port. By the way, the one in Newport did not even have a proper chart to come in there, but it was a requirement. I think we could make those kinds of requirements unilaterally.

Senator KERRY. Well, we have that in our legislation that we have reported out of the committee. My question is, is there any way that you can administratively undertake that prior to that legislation being passed into law?

Admiral YOST. We will look at that, sir. I do not know, but we will look at that. It is a good idea.

Senator KERRY. Senator Stevens.

Senator STEVENS. Admiral Yost, how much have you spent so far?

Admiral YOST. The last figures I saw, we had spent about $46 million or $47 million; $36 million of that had been billed to Exxon. They have paid two-thirds or three-fourths of that. It is not that they are not paying. It is just that it takes time to get these bills made out and what have you. And so we are $46 million or $50 million at this point out of Federal funds.

Senator STEVENS. The budget crunch we saw in terms of the depletion of the 301(k) fund has disappeared, right?

Admiral YOST. It has not disappeared, but if Exxon suddenly stopped paying for some period of time, we would be in big trouble in that fund. We just would not be able to reimburse those agencies, including the Department of Defense, who are billing us. So the fund is only worth right now about $2 million. The fund is very tiny.

Senator STEVENS. We would like tc keep informed if that 301(k) fund gets to the point where there is any kind of crisis potential, because it is my understanding that that is the same fund that you have to call on for what happened in Rhode Island, Delaware and Texas. We cannot have it get down to a minimum level in dealing with the Alaska operation, which is going to be ongoing.

I tried to get some money to put in there because of the budget circumstances and getting you money that you need for general operations. We determined not to do that, but I think we ought to make sure that you have the funds so that we are not stretching the potential of that fund for other types of disasters.

Admiral YOST. Well, there is about $7 million in it now, but we have bills for about $5 million of that; so the fund is only worth about $2 million at the moment. When I get an officer like Captain Williams who federalizes—and he did a super job—but he has got to look over his shoulder a little bit and say there is only $2 million in the fund; how much am I biting off? And when we have the Captain of the Port in Valdez try to make that decision when he was looking at a $300 million or a $400 million or a $500 million spill, and he knew there was $2 million in the fund, it probably caused him to stop and think before he federalized that one. And so it is a problem.

Senator STEVENS. Thank you, Mr. Chairman.

Senator KERRY. Thank you very much, Senator Stevens.

Admiral, thank you very much. I would like it if you can perhaps stay there, and we can make room for both Mr. Kelso and Mr. Stevens, who will join us at this point in time.

Admiral YOST. All right. If I could make a last plea for any legislation that comes down the pike, and there are some 30 bills in the hopper, to have the wherewithal with them in the way of money to execute them. Because last year, as you know, I shut down something like 15 MSDs, Marine Safety Detachments, one of them on Cape Cod in your very state; and we are now way short of that. We may shut down a lot more.

Thank you, sir.

Senator KERRY. I repeat, Admiral, I think it is unconscionable, and you should not have to be in the position that you are making this kind of plea for basically subsistence level capacity. I hope we are going to deal with it.

Admiral YOST. Thank you, sir.

Senator STEVENS. I did not ask you, Paul, if you still have any feelings about the idea of that Coast Guard support stamp we were talking about. We sent it over to the House, and the House knocked it down. I am about ready to ask the Congress for it again. And Senator Hollings said we will call it the Stevens tax, which I thanked him for. But I am perfectly willing to have it be the Stevens tax.

Do you have any thoughts, before I do that again tomorrow?

Admiral YOST. I have also chatted with Senator Hollings, and he is no more enthusiastic today than he was yesterday when you discussed it with him. My feeling and the Administration's position, is that if we are going to have a user fee, it ought not to be voluntary. The Administration has suggested a user fee for the Coast Guard that would be somewhere in the area of dollars that you have talked about for each boat. It would require that each boat pay such a user fee, and the evidence of payment would be some sort of a stamp.

Senator STEVENS. Thank you.

Senator KERRY. Thank you very much, Senator.

Thank you, Admiral.

If Mr. Kelso, Commissioner Kelso, and Mr. Stevens would come forward. Thank you.

Thank you very much, gentlemen. You have been patient. This has gone on some time. I will welcome your opening comments, and needless to say, if you want to summarize, we will put your full testimony in the record.

Mr. Kelso, do you want to begin?

STATEMENT OF DENNIS KELSO, COMMISSIONER, ALASKA STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Mr. KELSO. Thank you, Mr. Chairman. I will summarize and cover some material that is not in my written testimony.

My name is Dennis Kelso. I am the Commissioner of the Alaska Department of Environmental Conservation.

I would like to thank you very much for your continuing interest in the *Exxon Valdez* disaster. On behalf of Governor Cowper I would like to thank you for this chance to give you an update and also talk about some of the policy implications of this.

The State of Alaska and Exxon are essentially in an arranged marriage at this point, and it is a partnership of a type and composition that neither one of us would have chosen on our own, but we are committed to making it work; and my remarks are intended in that spirit.

At this point Exxon has put to work a large number of people and deployed a large fleet of vessels at significant cost. The Exxon field staff in Alaska are, from my experience, trying to do a difficult job as well as they know how; and for that the company deserves credit.

Alaskans, too, deserve a great deal of credit for holding themselves steady and upright, even as events have turned our world upside down. Coastal towns have been inundated by an industrial invasion, complete with transient workers, street crime, drugs, and 24-hour a day operations; and there has been a tremendous accumulation of solid waste.

And if I could put this chart up. This is a photograph of the solid waste accumulation at one of the four temporary storage locations. This one is in Valdez on Dadeville Road. As you can see, the accumulation is tremendous.

This is oiled solid waste. It includes things like oily booms, absorbent pads, other kinds of gear, oily debris, that kind of thing; and it has been placed in these bags for temporary storage.

Senator KERRY. How many tons of waste is there, do you know?

Mr. KELSO. Well, I do not know, but I understand from Exxon that they have about 16,000 tons at this point. And I think Mr. Stevens could give you their updated figure. I know that they have contractual capacity with a landfill in Arlington, Oregon of a substantial amount. My estimate is about 47,000 tons. But, of course, not all of that has been shipped yet.

The people that you see in this photograph, in addition to me, are Chris Gregwahr of the Washington Department of Ecology, Fred Hansen of the Oregon Department of Environmental Quality, and Richard Dallen, who is the Deputy Minister for Environment for British Columbia. The northwest states and British Columbia have put together their own oil spill task force because of concerns originally about the safety of transporting the Exxon Valdez and subsequently about issues like solid waste.

The solid waste problem is a major issue for us in Alaska right now, because local landfills cannot safely handle this material. Exxon has been shipping some of it out to the certified facility at Arlington, Oregon, and Exxon has proposed incineration of the waste in large barge-mounted incinerators.

Now, we have some incineration going on from some small hospital waste incinerators located in Valdez and incineration on the North Slope, but here is the problem with that. We have a huge volume of this stuff, and burning oily debris in the presence of salt or in the presence of seawater, which is, of course, most of this debris, has the potential for forming chlorinated dioxins, one of the most potent cancer-causing agents known today.

Needless to say, the situation is very serious as far as the public is concerned. They are extremely worried about the potential risk. They want the methods used to be just right if there is going to be incineration. And so even though Exxon did not want us to have public hearings, we are having public hearings this week in the potentially affected communities.

We disagree with Exxon that there is general agreement by all parties that incineration is the preferred method. The technology exists and the incinerators are available to do it safely, but here is the kind of situation we have right now. Of the four units proposed by Exxon, only two of them are actually in existence and ready to operate, and only one of the two actually in existence appears to have the technical capacity to burn safely any part of this waste. And none of these units has been tested for this kind of work.

So the suggestion that incineration is the way to go really ignores the potential risk. We are not opposed to incineration. That is not a doctrinaire position we are taking. But we just have to evaluate it carefully and do it right if people are going to be protected.

We have gone the extra mile, we think, as far as allowing the three small incinerator units to operate and to allow the shipment of incinerable material to the North Slope. And we brought our own experts and EPA into this picture to evaluate what the risks are of dioxin formation.

Frankly, Exxon could have done much more to resolve this solid waste issue. And we have heard them to complain that they want the barges to be operating quickly. The technical safety review, however, is what is at issue here, and that is what the people who live in the area are most concerned about.

Mr. Chairman, there are some social effects that ought to be mentioned as well. There has been a lot of publicity about the high-paying jobs on the cleanup, but little notice of those people who are not working—commercial fishermen, crewmen, cannery workers. They will receive settlements—Exxon has promised that—but it is still a year stolen out of lives that revolve around the seasons and the ocean.

There has also been little publicity about the jobs that now go begging as workers chase short-term paychecks on the spill. Daycare centers in several towns have closed for lack of caregivers, for instance. While workers on the beaches are making good money, it is bad work. If the devil is looking for a good way to remodel hell, I have a suggestion: pave the place with tar and assign to each sinner a subcontinent to wash, rock by tiny rock.

Because the shoreline treatment jobs pay well—and I am not talking about the wages of sin now—they have drained the labor pools that normally keep Alaskan towns working. So it is even more impressive that Alaskans have held their lives and communities together amid environmental disaster and economic upheaval.

One more brief bit of praise. The Coast Guard has done admirable duty under extremely difficult conditions, including their enormous and diverse missions. In the space of two recent weeks the Coast Guard was responding to four major oil spills, chasing foreign salmon pirates in the North Pacific off Alaska, and making a major drug seizure from Panama.

As a nation we ask this relatively small service to do a variety of very large jobs, often without the resources they need. And they are working hard in Alaska.

That, briefly, is some of the good news from this mid-season report, Mr. Chairman. And I would like to spend just a moment or two more talking about some of the issues that have emerged in addition to the solid waste issue that I mentioned.

Exxon has certainly deployed a substantial amount of equipment and personnel, but not enough of either has gone to areas outside of Prince William Sound. The Kenai Peninsula on both the Gulf of Alaska and Cook Inlet, Kodiak and the Alaska Peninsula remain seriously short of necessary oil recovery resources. In addition, Exxon continues to have problems producing results in its shoreline oil removal.

This is a time—and I really agree with Senator Stevens' comment earlier—when we need to be open to more innovative alternative treatments. For example—and this is a low tech example—the fishermen in the Homer area have invented a rock-washing machine. Now, it is labor intensive, but fishermen know how to do that, too. And we think that that machine ought to be given a try. If Exxon is not going to do anything with it, then we suggest they turn it over to us, because we will do something with it, even if that means rolling up our sleeves and working that machine side by side with those fishermen.

The Coast Guard estimates that about a third of the work has been done this summer, and that is a generous estimate, and that is also only in Prince William Sound. That does not include the Gulf of Alaska. Perhaps even more significant, the Coast Guard estimates that just within the sound Exxon is about 40 percent behind schedule.

It is easy to be impressed by a bunch of numbers—the numbers of boats, the numbers of workers, the numbers of miles that have been rinsed and treated. For the record, my department has documented 728 miles of shoreline inside and outside of the sound that have been hit with oil in some concentration. But based upon the continued movement of oil and oiled debris, we believe that many more miles of shoreline, perhaps hundreds of more miles, have been affected.

As of July 15th, 68.4 miles of Prince William Sound shoreline have been treated, according to the Coast Guard and my agency. But the term "treated," as you talked about here, does not mean cleaned, and that is an important point. Once a beach has been treated, it does not necessarily stay treated; and I would like to give you a quick example.

Last week I visited Green Island in Prince William Sound. This is a photograph taken on my visit. As you can see, there is a lot of oil on this beach and on these rocks. Now, this is a beach that was treated, and I went to this beach because it was one of the most recently treated.

I want to be careful to make sure that you know what you are looking at here.

Senator Gore. Wait a minute. Could I interrupt here just briefly? This is an area of beach that has been treated?

Mr. KELSO. This is an area of beach that was treated and re-oiled by natural forces. Probably what happened here is—and by the way, this fluid you see in between the rocks is actually water. That is not oil pooled there.

Senator GORE. But this is a treated beach.

Mr. KELSO. That is correct.

Senator GORE. Well, that is a pretty graphic illustration of the difference between treated and cleaned up.

Mr. KELSO. Exactly. Now, in fairness, let me say that we favor the use of the word "treat" rather than "clean," because we think the word "clean up" gives a misimpression, as you are suggesting. The word "clean up" suggests you end up with a beach that was in the same condition as when you started before the spill; and that is certainly not true. So we looked for other terms with the Coast Guard and with Exxon.

Senator GORE. What about the word "oil removal"? Will that do the job?

Mr. KELSO. Well, that again makes it seem as if you have taken the oil away, and would not be accurate in this instance where the oil has probably been lifted up from within the rocks on the tide and then re-oiled the surface after it had been treated. That did not seem like right word either, and so we came to using the word "treat," even though it is at best a poor fit, but it is the only word we could think of to avoid giving a misimpression that more is being accomplished than actually has been.

What this basically does is illustrate that the numbers, when you look at shoreline area treated compared to how much has been hit, are not particularly useful. The real point is that we are a ways behind, substantially behind getting this job done correctly before the end of September.

And the reason that is important is we think it is extremely important for Exxon to continue working as long as the conditions allow effective shoreline treatment. We think it is extremely valuable to maintain a field presence over the winter doing different kinds of tasks, of course, although some shoreline response work can occur during the winter.

We do not think it is adequate to pull back to Anchorage or to Houston, and we think that over the winter, preparations need to be made so that Exxon is ready to hit the shoreline effectively as early in the spring as possible. So we have been asking for that to happen and will continue to work with Exxon to make it happen; but it is extremely important to make that commitment and stick to it.

The last thing I was going to point out to you is that although the oil may not be visible in a big slick now, it is still there, and we have certainly not reached the bottom of the effort to pick that oil up.

Let me pass around a couple of samples here. These were samples taken in different locations. They were as of July 15th, so this is not early in the spill.

Senator KERRY. Would you describe these for me a little better?

Mr. KELSO. Yes. One of these is oiled rocks, actually what we would call oiled gravel, on the Prince William Sound area shoreline, and the other is oil in its liquid form. And I should warn you, Mr. Chairman, the lid does come off, and it is pretty pungent.

Senator **Kerry**. This one represents, this is what?

Mr. **Kelso**. That would be liquid or semi-liquid oil that was retrieved from the shoreline, basically pooled up oil.

Senator **Kerry**. How recently was this?

Mr. **Kelso**. July 15th.

Senator **Kerry**. July 15th. And this was taken off a beach that had been previously treated?

Mr. **Kelso**. That, I believe, was taken off a beach that had not received treatment.

Senator **Kerry**. So this is just the original coating of oil that comes off?

Mr. **Kelso**. That is right.

Senator **Kerry**. And these are rocks and pebbles off the beach?

Mr. **Kelso**. That is correct.

Senator **Kerry**. Again, July 15th?

Mr. **Kelso**. That is correct.

Senator **Kerry**. Had this been treated?

Mr. **Kelso**. I believe that was from a different portion of that same beach. And I requested that they pick it up from a beach that had not yet been treated. However, having handled the rocks on this beach, I can tell you that the consistency where it has been reoiled is virtually the same. I would not have been able to tell the difference between that sample and the ones that I picked up on Green Island when I visited last week.

And let me ask also if I could hand out to you——

Senator **Kerry**. What area of beaches that have been treated are winding up back in the condition of the picture that we are looking at here?

Mr. **Kelso**. The conditions are different in different parts of the spill. For example, in Prince William Sound and near the sound where a large amount of liquid oil went into the shoreline itself, it sank down in between these boulders, and can be either lifted by the tide or moved out on the water and carried away to hit another area. We think the miles of shoreline are fairly significant—I do not have a mileage figure for you, but it is a substantial amount that is reoiled the way that this has been hit.

In other parts of the spill the consistency is different. And as Admiral Yost mentioned, the spill is ongoing. The spill now—you have the smaller map, and I have another example of that up here—is even more extensive than the distance that you looked at in May. And I have both the original May chart——

Senator **Kerry**. In May we had a spill that went from about Cape Cod down to the coast of Maryland, correct?

Mr. **Kelso**. That is correct.

Senator **Kerry**. And now we extend all the way down beyond Virginia.

Mr. **Kelso**. That is correct. And here you can see it has also started to move north into Cook Inlet and has caused the closure of fisheries, commercial fisheries in Cook Inlet as well. And it has just hammered the Kodiak fisheries. It may be that you have the potential for oil accumulation that does not cause mortality to an adult fish, for example, but if the oil is present in concentrations that make it either unsafe or inappropriate to catch those fish, you have essentially accomplished the same thing by making it impossible for the fishermen to operate.

The oil in these areas further from Prince William Sound has a different consistency, and I have examples of that as well. These are what we call "mousse patties", and if I could get a hand here in passing them out to you—that is spelled m-o-u-s-s-e—and these—I want to point out to you that I have these bags, these plastic bags have double bottoms, and we enacted that without any negotiation of any kind.

Senator KERRY. I want to thank you for bringing this wonderful set of gifts here today.

Now, where is this from? I can smell this right here.

Mr. KELSO. That is from out in the Gulf of Alaska area, and that is the kind of thing that washes up in clumps. I know on this last visit Senator Stevens had seen some of that material as well.

The only other thing I was going to mention is that in the same spirit that Senator Stevens mentioned, this really is a good time to look at a variety of technical approaches, and we think that although it is perfectly legitimate for Exxon to look at the things they have been looking at, we think they have looked at too narrow an array.

For example, they are currently looking at the use of one of their compounds, Correxit 9580, and that may have some potential for use in loosening oil off of shorelines such as the one I just showed you.

But it is very important for us to take a look at what the potential effects of that may be. That does not mean we have to delay the use of that, but so far we have not even received the basic toxicity data, any bioassay information or the most rudimentary information such as chemical constituents.

Why is that important? Well, if you are using it on the shoreline, you have the potential to have more effects close into the shore in the water because if you bring the oil off the shoreline, the nearest place for it to go is into the water right at the edge of the beach, and so you need to know if there is going to be a biological effect, will it hurt the organisms there, is it going to interfere with the use of bioremediation. For example, is it going to kill the bacteria that are supposed to metabolize the oil? That is the kind of information that we really need from Exxon, and we do not have it yet.

And so, we are eager to pursue some of these methods. We would like to see Exxon open up its horizon a bit on what things it considers to be useful to explore technically and very importantly things to be used for the future. I think this was Senator Stevens' point. These approaches need to be evaluated ahead of time so that you do not end up basically trying to invent it as you go along with a shoreline response.

My only regret, of course, in sampling and passing these things around is I had hoped to be able to bring you some oil from Gore Point which was heavily hit. And actually Gore Point was hit with stuff in the plastic bag which in some places was six to 18 inches deep in windrows at one point, and there has been treatment operation that has taken place there in large part because Admiral

Robbins and I visited that shoreline and came back and said this has to happen.

And Exxon had some trouble mobilizing because they just have not made the commitment of resources outside of Prince William Sound.

I do want to say one last thing and that is that even though I have been critical of Exxon and still feel as if I need to be, to express exactly what I see is happening there, we are committed to working cooperatively. We need Exxon to meet us halfway in that the real results of this thing are what are of interest, not numbers of boats or numbers of people. What results are we getting, and where does that take us for the future because all of us, whether it is the Congress or the State of Alaska or industry are in this boat together, whether it has got a double hull or not. We have to work together so that this never happens again either in Alaska or in any other state. Thank you, Mr. Chairman.

[The statement follows:]

Testimony of Dennis Kelso
Before the
Senate Committee on Commerce, Science and Transportation and the Senate Subcommittee on National Ocean Policy Study

July 20, 1989

Mr. Chairman and Members of the Committee:

My name is Dennis Kelso, and I am the Commissioner of the Alaska Department of Environmental Conservation. The State of Alaska appreciates very much your continuing interest in the Exxon Valdez disaster. On behalf of Governor Steve Cowper, I thank you for the chance to give you this update on the situation.

The State of Alaska and the Exxon Corporation are in an arranged marriage at this point. It's a partnership of a type and a composition that neither one of us would have chosen on our own. However, the State is committed to making it work.

At this point, the Exxon Corporation has put to work a large number of people and deployed a large fleet of vessels at significant cost. The Exxon field staff in Alaska are, from my experience, trying to do a difficult job as well as they know how. For that, the company deserves credit.

Alaskans, too, deserve a great deal of credit for holding themselves steady and upright, even as events turn our world upside down.

Coastal towns have been inundated by an industrial invasion complete with transient workers, street crime, drugs and 24-hour-a-day operations.

There has been a lot of publicity about the high-paying jobs on the clean-up, but little notice of those who aren't working: commercial fishermen, crewmen, cannery workers. They'll receive settlements -- Exxon has promised that -- but it is still a year stolen out of lives that revolve around the season and the ocean.

There also has been little publicity about the jobs that now go begging as workers chase short-term paychecks on the spill. Day care centers in several towns have closed for lack of care-givers, for instance.

But while workers on the beaches are making good money, it's bad work. If the Devil is looking for a good way to remodel Hell, I have a suggestion: Pave the place with tar and assign to each sinner a subcontinent to wash, rock by tiny rock.

Because these shoreline treatment jobs pay well--and I'm not talking about the wages of sin, now--they've drained the labor pools that normally keep Alaskan towns working. So it's even more impressive that Alaskans have held their lives and communities together amid environmental disaster and economic upheaval.

One more brief bit of praise. The Coast Guard has done admirable duty under extremely difficult conditions -- including their enormous and diverse missions.

In the space of two recent weeks, the Coast Guard was responding to four major oil spills, chasing foreign salmon pirates in the North Pacific off Alaska, and making a major drug seizure from Panama. As a nation, we ask this relatively small service to do a variety of very large jobs -- often without the resources they need. They're working hard in Alaska.

That, briefly, is some of the good news from this "midseason report" you requested, Mr. Chairman. Now let me focus on the points of concern that have emerged since March, or that have sharpened as the months have gone by and the spill goes on.

I mentioned that Exxon has deployed a lot of equipment and personnel. That's true, but not enough of either has been deployed outside of Prince William Sound. The Kenai Peninsula--on both the Gulf of Alaska and Cook Inlet, Kodiak, and the Alaska Peninsula remain seriously short of necessary oil recovery resources. Further, Exxon continues to have problems producing results in its shoreline oil removal.

The Coast Guard estimates that one-third of the work has been done this summer -- and that's only in Prince William Sound, not in the Gulf of Alaska. Perhaps even more significant, the Coast Guard estimates that just within the Sound, Exxon is 40 percent behind schedule.

It's easy to be impressed by the numbers -- numbers of boats, numbers of workers, numbers of miles that have been rinsed and treated.

For the record, my department has listed 728 miles of shoreline inside and outside of the Sound that have been hit with oil in some concentration.

As of July 15, 68.4 miles of Prince William Sound shoreline have been treated, according to the Coast Guard and my agency.

But the term "treated" does not mean "cleaned" -- and that's an important point. Moreover, once a beach has been treated, it doesn't necessarily stay treated. I'll give you an example.

Last week I visited Green Island in Prince William Sound, where these photos were taken. As you can see, there is a lot of oil on this beach and on these rocks. The gross contamination has been rinsed off, but a great deal of oil remains. There are dozens of treated areas like this.

On many beaches, oil has seeped deep into the substrata and can be lifted out on successive tides, oiling the beach again and again. On still other beaches, oil washed free by storms and wave action can go back into the water to oil yet another beach.

My point is, the slick may be gone, but the oil is not. Moreover, it won't be gone by the end of the summer. It is premature for the Coast Guard and Exxon to discuss "demobilization " before mobilization has occurred throughout the spill area. This brings me to my second point.

Summer is short in Alaska, but it isn't as short as Exxon seems to think. The company has set a date for essentially ending this summer's work, on September 15. We recognize the need to plan a way to pull workers and equipment off the beaches before the winter comes in earnest, but September 15 is not a magic date.

If the spill had occurred on September 16, surely Exxon would not suggest "demobilizing" by the end of September. In fact, by suggesting that oil spill response work cannot be done effectively in the winter, Exxon inadvertently may raise questions about whether year-round tanker operations can be conducted safely in any parts of the country that have cold winters. We think that they can and that Exxon should maintain safe and appropriate levels of activity this fall and winter.

Winter does not drop like an ice curtain on October 1, then rise abruptly with a blast of sunshine and warm wind on April 1. Local residents do not go into hibernation between those dates. weather and shoreline conditions differ markedly throughout the spill area, and Exxon's effort should be tailored to those specific circumstances.

We recognize that winter operations may differ from those underway now. During the winter, Exxon should maintain an active presence in the spill area, not just in Anchorage or Houston, to survey the shoreline, map the spill, monitor changes, and provide emergency response if oil or oiled debris moves toward the fish hatcheries or other sensitive areas. By repairing equipment, procuring materials, and planning for warmer weather operations, Exxon can be ready to re-establish full scale oil recovery efforts in early spring.

As for this year, oil recovery should continue as long as weather and safety considerations allow in 1989. We need to get as much oil off the beaches as possible -- or until the work nears the point of doing more harm than good.

It is essential that Exxon honor its commitment to stay as long as necessary to get this job done right. That means resuming oil recovery operations in the spring, not merely surveying the spill or mapping its extent after the winter. There is great concern among Alaskans affected by the spill that Exxon intends to leave at the end of September and not to return in the spring with a meaningful response. Recent statements by Exxon officials in Valdez have fueled this concern. As long as conducting this work results in a net gain to the environment, we think it must be done.

We'll need the Coast Guard's help in developing and implementing such a program, and we'll need their help in keeping Exxon at work -- safely -- past September 15.

To sum up, my message is this: the shoreline and in-the-water effort needs to be much stronger outside of Prince William Sound. The recovery work should continue in 1989 as long as weather and safety considerations allow. Field work appropriate to the local conditions should be carried out during the winter. Full scale operations should resume as early as possible in 1990.

I'll close this statement with brief comments about policy questions created by this spill.

The State of Alaska is on record as promoting or supporting a number of ideas about improving the safety of oil shipping, so I won't repeat them here. The State Legislature and Administration have also made a number of administrative and legislative changes that will help prevent spills, or will help us respond to future events. I'd be happy to discuss them if the committee wishes.

I would, however, like to draw your attention to the issue of local and state response to future oil spills nationwide.

Since the Exxon Valdez spill, the Congress has been moving to strengthen and centralize response to major spills. That makes sense.

However, the State of Alaska urges the Congress to make sure the states are there at the table with the federal government. Some of the bills now being considered would pre-empt the states' authorities to protect their own shoreline. Other provisions would limit liability of spillers. In light of what we've learned from the Exxon spill, that would be a serious mistake.

This is no esoteric states' rights issue. It's a practical matter. State agencies have extensive expertise. Local skippers have sophisticated vessels and essential local knowledge. And it's the people living in the affected area who are most at risk.

A better, more effective change would be to put the Coast Guard, in conjunction with the affected states, in charge of major spills in waters of the United States -- but to keep the spiller on the hook for the cost of the clean-up. Because the missions and resources of the Coast Guard and the state oil spill response agencies are different, it is critical that both have strong roles.

If the next big spill is not dumped by a wealthy, accessible corporation such as Exxon, the Coast Guard and the states will need the financial resources to do a good job. The State of Alaska recognizes that, and already has created a $50 million response fund.

Thank you for this opportunity, Mr. Chairman. The State of Alaska is ready to help you in any way we can to protect our own shores and those of other states.

[The following information was subsequently received for the record:]

State of Alaska,
Office of the Governor,
Alaska Oil Spill Coordinating Office, Juneau, AK,

September 1, 1989.

Hon. Larry Pressler,
U.S. Senate, Washington, DC.

Dear Senator Pressler: Following testimony before the Senate Commerce Committee by Dennis Kelso, Commissioner of the Alaska Department of Environmental Conservation, you asked Mr. Kelso what I meant by a statement regarding "arrogant and complacent" Exxon Shipping Company (ESC) management practices.

Commissioner Kelso asked me to respond to the question myself.

The July 19 Washington *Post* article you cited was a story following the release by Alaska of our recommendations to the National Transportation Safety Board regarding possible causes of the March 24 grounding of the T/V EXXON VALDEZ. By way of answering your request for details on what management activities I was describing, I offer the following:

1. ESC's failure to effectively monitor Hazelwood despite Exxon's knowledge of his history of alcoholism, and despite a sworn statement by Bruce Amero in a lawsuit the Hazelwood had been seen throwing empty liquor bottles overboard after his treatment for alcoholism, the Hazelwood had strayed of a set course by missing a navigation signal, and that he had altered the ship's log to delete evidence of his navigation errors.
2. ESC's failure to take measures to ensure the Exxon policies were being carried out in practice. NTSB testimony show at least six company policies that concerned safety and/or navigation which were violated on March 23–24th. These include putting the VALDEZ on a course which would take her to within one mile of Bligh Reef, put the VALDEZ on autopilot inside Prince William Sound, departing altogether from the Vessel Traffic Separation System (i.e. leaving both lanes), failing to report the VALDEZ course change to the Coast Guard, leaving an office the the helm inside Prince William Sound who did not have a pilotage endorsement for those waters, and not having two officers on the bridge while the VALDEZ was inside Prince William Sound.
3. Manipulating employee records to reflect zero overtime in order to secure Coast Guard permission to reduce the number of crew members operating ESC tankers. Exxon masters were expressly directed that overtime had to be eliminated among the class of seamen Exxon wanted to reduce. This was accomplished by forcing officers, who are not compensated for overtime, to perform the functions normally performed by the other crew members.
4. Encouraging Exxon masters to sail on a fixed schedule, regardless of whether and safety considerations. The pressure on masters to meet their Houston-dictated schedules was cited as a contributing cause in the recent Exxon spill in Hawaii. Despite the fact that ice had been reported in Prince William Sound by an incoming tanker, Hazelwood left Valdez and set a course that strayed from the VTSS in order to avoid the ice, rather than delaying departure from port. No consideration was given to slowing the tanker because of ice.
5. Exxon's failure to provide full time bow lookouts while in confined waters. Lookouts were allowed to stand their watches on the bridge wing. In this position, the lookout is some 800 feet closer to the bridge that he/she would be if stationed on the bow. This practice significantly diminishes the effectiveness of the lookout. Hazelwood ordered the lookout to stand watch on the bridge wing, rather than than the bow on the night the VALDEZ was grounded, even though the weather did not preclude watch standing on the bow.
6. Allowing Exxon employees to leave their watches before being relieved by their replacements and/or calling duty seamen away from their posts to perform other tasks. The combination of these two practices accounted for over 30 minutes during which the Valdez had not lookout on March 23–24. Had there been a sufficient number of crew members on duty and if they had been properly supervised, so that they remained on duty until relieved, the VALDEZ would have sailed with a lookout at all times.
7. ESC has not procedures to ensure that the Coast Guard regulations which require ship officers to have sufficient rest before sailing and followed, and they were not followed, on the VALDEZ voyage of March 23.

Think you for your continued interest in the Alaskan oil spill. We appreciate your role in Senate passage last month of tough oul spill legislation, and look forward to action by your colleagues in the house.

If I or my office can be of further assistance in your inquiry, do not hestitate to contact us.

Sincerely,

Robert E. LeResche,
Executive Director.

Senator Kerry. Thank you very much, Commissioner. We appreciate it.

I think we will have—no pun intended, but you are the cleanup hitter, Mr. Stevens, and we look forward to your testimony.

I think you have a video, also, if I am correct.

Senator Gore. Mr. Chairman, I would like to apologize to Mr. Stevens for having to leave.

I have been here for the rest of the hearing, but because I am chairman of the Space Subcommittee, we have some events on the Apollo anniversary that are starting shortly.

And I apologize for not hearing your side of the story, but I want to assure you that I am going to read your statement very carefully and follow it with interest.

STATEMENT OF WILLIAM D. STEVENS, PRESIDENT, EXXON COMPANY USA

Mr. Stevens. Senator, I would be very pleased to come by and visit with you.

Mr. Chairman, I do have a video.

Senator Kerry. Do you want to lead off with that?

Mr. Stevens. I will make just a very few comments and then go to the video.

With your permission, I will keep my opening comments very brief.

Senator Kerry. Let me just say on second thought, Admiral Yost, I know you are very busy and you have got a lot of budget fighting to do and other things. I think on second consideration that it probably will not be necessary for you to hang in here, if you wanted to take off.

Admiral Yost. I have been here so far. I am very, very interested. With your permission, I will continue.

Senator Kerry. You do not need my permission to stay. I am just delighted to have you here. Thank you.

Mr. Stevens. As I said, I will keep my opening comments extremely brief. My more lengthy statement has been submitted for the record.

As you know, when I appeared here on May 10th, Exxon was in the very early days of an extensive cleanup operation. Since then we have successfully completed an unprecedented mobilization. This has involved over 10,000 workers, predominantly Alaskans, I should note, 1,000 vessels and 70 aircraft. The rapid buildup of people and equipment has met the upgraded targets I committed to before this committee on May 10th.

It would be extremely difficult for me to convey with words the sense of what has been achieved, so with your kind permission I would like to show you a short videotape and enter it into the record. It is about four minutes in length, Mr. Chairman.

[Videotape shown.]

Senator Kerry. Thank you very much. Do you have further comments?

Mr. STEVENS. Yes, I do, Mr. Chairman. I hope that gives you and the Senator who has seen this in the wild, so to speak, a better appreciation for what is involved in our operations up there.

I had a series of additional verbal comments I was going to make which very briefly encapsulated my testimony, but I think in view of Mr. Kelso's opening comments, I will depart and respond to some of his comments.

Mr. Chairman, it is no secret that when one comes to Washington to participate in a committee hearing like this that you come in with several different objectives in addition to responding to the interests of the committee.

I had two very key objectives as I came to Washington the day before yesterday, both of which Mr. Kelso has spoken to, and I am very pleased that some of the discussions that I had with Admiral Yost, Senator Stevens, Frank Murkowski and so forth have gotten through to Mr. Kelso and that we finally have his attention focused on waste disposal and focused on the scientific improvements that can be made in the cleanup.

Perhaps you will forgive me a bit of an overstatement, but you know some people when confronted with a problem work on solutions, and other people have some difficulty becoming part of the solution and tend to stand outside the building and throw rocks through the windows.

Well, on the two issues that he has spoken to I am afraid that Mr. Kelso has been in the latter capacity. He made a comment that with respect to waste handling that we had failed to recognize the problem earlier on or early and we had really done little or nothing to deal with the problem and, of course, he had, as usual, a very graphic photo.

Well, let me give you some facts. We started working waste disposal in April and submitted a waste disposal plan with our May 1st plan.

The issue of solid waste incineration, we submitted our first permit on May 8th for one of the silos and for the other silo on May 24th. Those matters have drug on since early May, late May until today. And about two weeks ago Mr. Kelso's department concluded that public hearings were needed.

Now, we have never attempted to short-circuit the process, and certainly no one has any more interest in getting this job done than we and done well and done environmentally safe, and I just point a bit of a contradiction to some of his comments about the use of these waste incineration barges that he commented on.

He has given us permission to use waste incinerators in a couple of onshore sites and also in early May his department agreed with using the offshore barges. We spent $3.5 million to get these barges mounted and brought them up to Alaska, and they have been there for several weeks now, and we are unable to use them and the prospects—and I am sorry Senator Packwood is not here—the prospects are that the process that we are now engaged in, we will never be able to use these incinerators on dispersant testing.

There have been four tests done by a very large number of agencies, including ADEC. The first test was proposed on May 1st. It was run on May 18th. The second test, June 8th, June 10th. The third test, June 25th. The fourth test, July 10th, and now we are being required to do an additional test primarily by Mr. Kelso's organization.

Let me read you just a few sentences from a memo of a meeting that was held over the weekend to try to get the cleaning agents used off of the dead center because of their stalling. This is from one of my people to the scientists involved. We met with the shoreline R&D committee, and that includes every agency involved, scientists, shoreline R&D committee to discuss our proposal for a field test of this product.

The ADEC representative stated a series of concerns regarding the amount and type of data required for interim approval of the use of chemicals. The chairwoman of the committee also representing NOAA stated that this position was in conflict with previous positions of all of the agencies.

I question very, very seriously whether Mr. Kelso is sincerely interested in us getting this job done.

One last comment with respect to his graphic photo of Green Island. About 60 percent of Green Island was not even treated. Removed off of the island in order to meet higher priorities on Perry Island and Lone Island in order to get ahead of the fishing seasons, and so I do not know—I will take Mr. Kelso's word for it if he says he visited a treated beach, he did visit a treated beach then. But is not surprising that only 60 percent of the island being treated that we would have some reoiling.

Now, let me be very clear, Senator, and I will come back to this I am sure on response to questions. We do have some reoiling occurring in some selected beaches. The oil is deep in the substrata, and it is leaching out very slowly. There is nothing that can be done about that except to deal with it.

But, again, I would in response to the question you asked what percentage of the beaches look like that, I spent nine hours in Prince William Sound this past Saturday. The answer to your question is very few.

[The statement and questions and answers follow:]

Statement of W. D. Stevens
President, Exxon Company, U.S.A.
before the
National Ocean Policy Study Subcommittee
of the Senate Commerce, Science and Transportation Committee

July 20, 1989

I am Bill Stevens, President of Exxon Company, U.S.A. I am here today to bring you up to date on our Alaskan activities in response to the EXXON VALDEZ oil spill.

My comments will focus on mobilization, shoreline treatment operations and progress to date, and steps being taken to deal with the broader impacts of the spill.

Mobilization

When I appeared here on May 10, Exxon was in the early days of an extensive operation to treat oiled shoreline. Since then we have successfully completed an unprecedented mobilization in a remote area.

Currently, over 10,000 people, predominantly Alaskans, are involved in Exxon's spill response activities. Reaching this level involved hiring, training, and effectively deploying this large workforce within a short period of time. Almost 3,000 of these workers are directly involved in shoreline cleanup in Prince William Sound and the Gulf of Alaska.

About 1,000 vessels of all types, sizes, and capabilities are deployed. The largest number are fishing boats and other local vessels involved in various support activities. Many specialized vessels were brought in from outside Alaska, including skimmers, landing craft, barges, and berthing vessels.

In addition to the vessel fleet, about 70 aircraft are used for a variety of functions, including medical support and environmental surveys.

Much specialized equipment had to be designed from scratch or modified on site to meet needs. For example, the clean-up operations being conducted involve extensive washing of shorelines. Systems capable of delivering over 200 million gallons of water per day are now in place, equivalent to the daily needs of a city of over one million people. A number of washing methods were developed:

- Fourteen "omni-sweeps," a hydraulically articulated delivery system normally used for pumping cement, were adapted for use.
- Irrigation equipment is being used for low pressure, cold water shoreline flushing.
- And fireboat nozzles mounted along the sides of barges are used on rock faces inaccessible to people.

The use of warm water significantly improves washing operations. We are currently able to heat and deliver nearly 17 million gallons of warm water per day. This capacity is equivalent to the daily consumption of a city of half a million people. This was accomplished primarily with industrial heaters built especially for this clean-up operation. In total, about 1,000 water heaters are being used, ranging in size up to 7 million BTUs per hour.

Mobilization Versus Plan

When I testified before this Committee on May 10, I announced our commitment to further increase the personnel and equipment mobilization targets. These were elaborated on in our May 24 plan upgrade and subsequently endorsed by the Coast Guard as the Federal on Scene Coordinator (FOSC). The mobilization of people and equipment just described was accomplished in accordance with the upgraded plan targets.

The attached charts demonstrate progress in meeting these targets. Over 10,000 people are now working on spill response activities, with about 30 percent directly involved in shoreline operations (Attachment I). The remainder of the workforce are for communications, transportation, berthing, waste handling, fueling, and other support activities required for a logistics system reaching over 500 miles. In the Gulf of Alaska, over 800 people are deployed, nearly double the upgraded plan levels. The buildup of the shoreline workforce in the Sound to over 2,000 people did fall behind schedule for several weeks because of limited berthing capacity, in part caused by rotation of military vessels, but it is now above target. Both landing craft and maxi-barges were deployed somewhat ahead of plan (Attachment II), with 47 landing craft and 24 maxi-barges currently operating. Water delivery capacity is 8 percent above plan levels; significantly, warm water capacity is 36 percent above plan (Attachment III).

It is difficult to adequately convey a sense of what has been accomplished. It has to be seen to be fully appreciated. With the Chairman's permission, I would like to show and enter into the record a short videotape which illustrates these clean-up operations.

[show videotape]

I hope that gave you a better appreciation of the scope of the activities we have under way.

Shoreline Treatment Progress

Miles impacted: The magnitude of the task has grown since I testified on May 10. At that time, the estimate of the impacted shoreline was 364 miles. Further shoreline surveys during May raised the target to

730 miles. The major portion of the revision occurred in the Gulf of Alaska areas. There, 83 percent of the impacted shoreline is lightly or very lightly oiled by scattered patches of mousse and tarballs (Attachment IV). Only 2 percent of the impacted miles in the Gulf are heavily oiled, in contrast to Prince William Sound where 23 percent are heavily oiled.

The May estimated impact of 730 miles included 209 in Prince William Sound. Since U.S. Coast Guard approval of the current plan (dated May 24) was based on the 730-mile estimate, progress is shown against this target (Attachment V). Subsequent Exxon surveys in Prince William Sound were completed in June indicating 345 miles of shoreline was impacted, with most of the increase being lightly impacted shoreline.

Prince William Sound: To date, 90 miles of shoreline have been treated. Work in the Sound initially concentrated on the most heavily oiled areas. With more equipment and personnel in place, progress is expected to accelerate from this point forward.

In some of the heavily impacted areas, oil buried deeply in the rocky shoreline causes a re-oiling of the beach after treatment. Despite multiple washings during treatment, subsequent tidal action slowly leaches some of the remaining oil to the surface. In those areas continued treatment reached a point of diminishing effectiveness and, with Coast Guard concurrence, the washing effort shifted to other areas in more critical need of treatment. All such segments, where a decision was made to move on despite some re-oiling, are in much better condition than prior to treatment. They will be reevaluated to determine whether additional effort is required this summer.

Gulf of Alaska: Thus far, we have cleaned over 400 miles of shoreline in the Gulf. Work crews are presently collecting 3,000-4,000 bags of debris per day. Cumulatively, about 9,000 tons of debris have been collected.

As mentioned previously, the shoreline in areas of the Gulf has been much more lightly impacted than in the Sound. The most effective clean-up technique for these areas is to manually clean up the oily materials with rakes and shovels. Skimmers have not been very effective in recovering the scattered patches of mousse and tar balls from the water.

Our assessment of the amount of shoreline impacted in the Gulf is not as accurate as that in the Sound. These estimates have been changing as patches of mousse and tar balls, driven by high winds and ocean currents, move about and impact new areas. We have recently increased the number of survey crews in the Gulf so that a better assessment of the shoreline impact can be made.

While overall progress is going well in the Gulf, there are some areas where mechanical clean-up techniques may be worthwhile. Studies are now under way to determine whether such methods should be used.

Summary: In total, 500 miles of shoreline have been treated. Progress in Prince William Sound has been slow and difficult, especially while working on the heavily impacted areas. We expect progress to accelerate toward the goal of treating all of the impacted shoreline. In the Gulf of Alaska, clean-up operations are well along.

Areas for Improvement

I have already mentioned a number of operating improvements which have been implemented. Warm water, 24-hour maxi-barge operations, and a number of equipment modifications have improved productivity in recent weeks.

We have sought further improvements in shoreline clean-up techniques and found two that are quite promising--use of surfactants (chemical agents) and bioremediation. Both are being tested for effectiveness and environmental impact.

Chemical agents which help loosen the oil have been tested since mid-May. Four suites of tests have been run using seven chemicals, and a fifth test is being required. In two instances a full range of environmental tests were run which, when combined with the agency review process, take 5-6 weeks each. The tests confirm that some agents are effective in removing oil. No adverse environmental effects have been noted to date. We are convinced that using these chemical agents could significantly speed cleanup. While this technique may hold great promise, unless we get prompt approval we will not be able to use chemical agents in Prince William Sound.

Another study, a cooperative effort between the EPA and Exxon, involves "fertilizing" the shoreline with a material to speed the growth of oil degrading microorganisms, hastening the natural process. The EPA is encouraged by the results and is optimistic this technique will prove successful. Assuming the current tests are successful, prompt agency approval is required to allow application of fertilizer during warmer months when it is most effective.

A more mundane but important issue is waste disposal. Thus far we have collected about 16,000 tons of solid, oily waste. Additional collections average about 2,000 tons per week. After general agreement by all parties that incineration was the preferred method for disposing of these materials, Exxon arranged for two large barge-mounted incinerators and filed for state permits in late May.

The barge incinerators have remained idle for several weeks and approval to operate is still not in sight. In the interim, the bulk of the waste is being barged to an out-of-state landfill. Prompt approval of incinerators would help manage the waste disposal problem and avoid potential bottlenecks to shoreline cleanup.

Demobilization

With regard to the close-down date for the winter, we do not intend to work on the shoreline cleanup past mid-September. Most importantly, we are concerned about weather impacts on operations, but we also continue to believe all significantly impacted shoreline will have been treated.

General weather data analyses, as well as the advice of knowledgeable people in the area, indicate the need to plan for a mid-September shutdown. The ability to work safely in an offshore environment and on exposed shorelines dictates this conclusion. Also, the effectiveness of clean-up activities will decrease significantly as wind, wave, daylight, and temperature conditions deteriorate rapidly. Detailed analysis of weather data, as well as the time required for efficient and safe demobilization, is currently under study to establish specific plans.

Looking ahead, we plan to inspect the shoreline after the winter. Whether any work should be done next year and the magnitude, location, and type of work will, of course, depend on the assessment made at that time. Over the winter a program of scientific investigation and field monitoring will be continued. This will provide good bases for next spring's assessment of the present shoreline treatment efforts, as well as the ongoing evaluation of environmental impacts of the spill.

Mitigating Economic Impact

While understanding that the call for this hearing focuses on clean-up progress, I want to briefly mention Exxon's efforts to mitigate the impact on the local people and their communities.

- Exxon liaison personnel are located in the impacted communities throughout the Sound and the Gulf to assist as needed.

- Reasonable spill-related expenses are being reimbursed to local communities as they are incurred.

- There are eight claims offices to accept and process claims. To date over $38 million has been paid covering 3,800 claims. Procedures allow prompt payments to minimize economic hardship and include partial payments.

- Special needs of native communities have been recognized. Currently, efforts are being made to provide information about the impact of the spill on subsistence resources.

> Where possible, steps have been taken to assist in opening fishing seasons, including test fishing, use of spotter planes, and kelp cleaning. Facilities are available to clean oiled boats and equipment, and vessels have been provided to dispose of any contaminated fish.

Admittedly, there is some dissatisfaction, which is understandable under the circumstances. Simply, let me say that Exxon has consistently sought to deal reasonably and fairly with those impacted by the spill.

Environmental Studies

From the outset, a high-priority concern has been to assess the biological and ecological impacts of the spill. Our studies have been under way for less than four months. Much more data will be collected, and all existing data has not been completely analyzed, but, at this point, we are encouraged by the results.

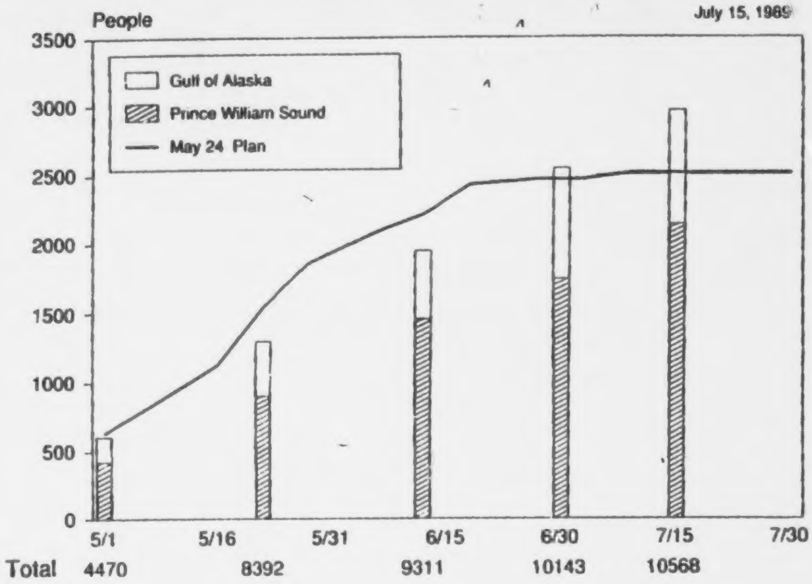
A total of 20 studies are under way: water and sediment surveys and attendant toxicity testing, biological baseline studies, and a wide range of studies addressing wildlife, fish, microorganisms, and marine flora. Concentrations of hydrocarbons in the water column have been well below toxic levels. As expected, there has been considerable mortality to marine organisms in intertidal areas that have been oiled. No damage to other marine organisms has been observed. Results from studies of commercially important fish species--herring and salmon--are positive. Spawns appear to be normal and comparable to previous years.

Conclusion

I believe that by our actions, we in Exxon have shown our intention to deal responsibly with the spill and its effects. We can and are taking every reasonable action to limit the damage, clean up, and otherwise mitigate the impact of the spill.

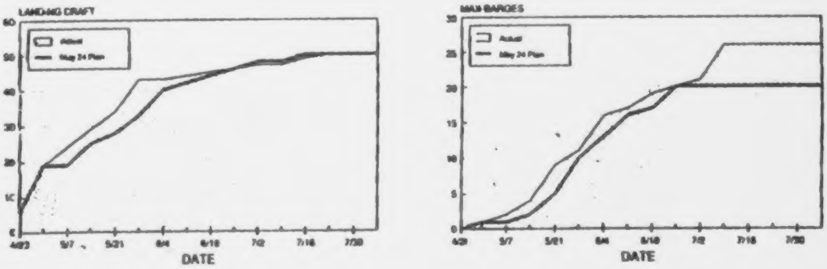
ATTACHMENT I

SHORELINE CLEANUP PERSONNEL



ATTACHMENT II

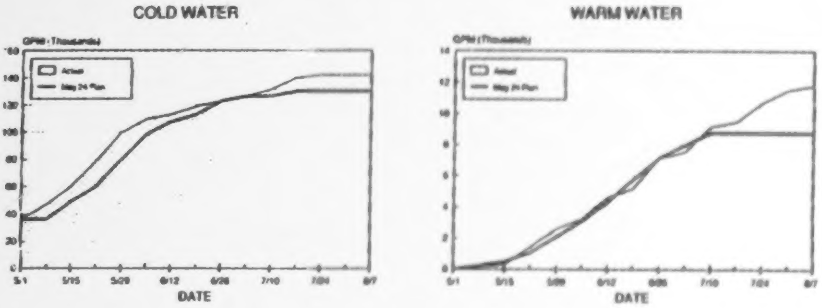
LANDING CRAFT AND MAXI-BARGE BUILDUP



July 15, 1989

ATTACHMENT III

WATER PUMPING CAPACITY BUILDUP



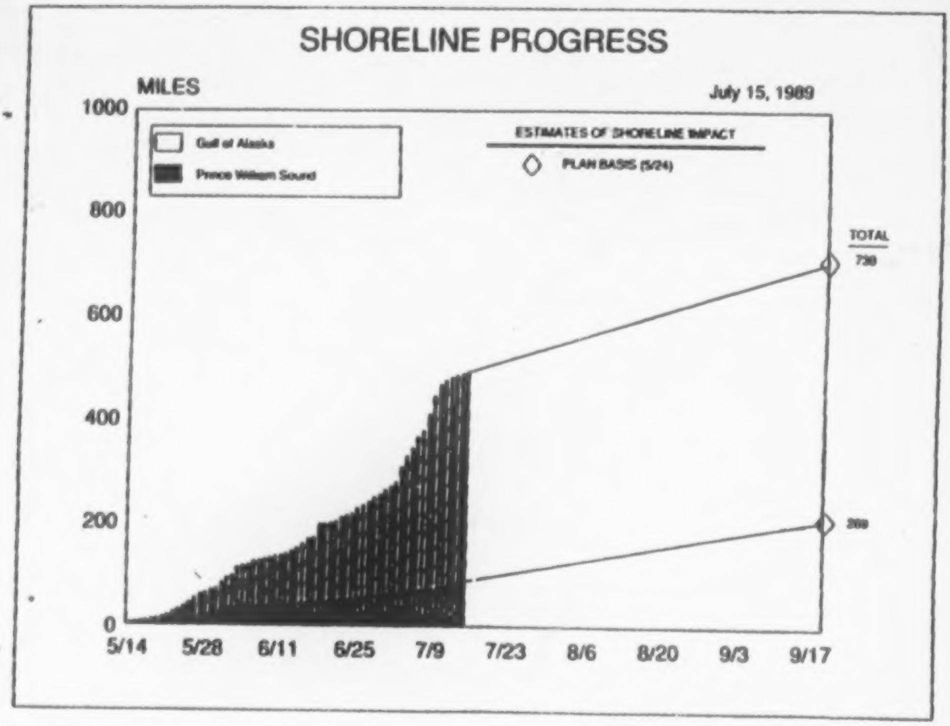
July 15, 1989

ATTACHMENT IV

CHARACTERIZATION OF SHORELINE IMPACT

	% OF PLAN MILES IMPACTED		
DEGREE OF OILING	PWS	GOA	TOTAL
HEAVY	23	2	8
MODERATE	32	15	20
LIGHT / VERY LIGHT	45	83	72
	100%	100%	100%

ATTACHMENT V



POSTHEARING QUESTIONS OF SENATOR PRESSLER AND THE ANSWERS

1. What is your response to Alaskan State government officials who label your efforts to clean up and contain the VALDEZ spill as something out of the Keystone Cops?

2. What is the current status of Exxon's clean-up efforts in Prince William Sound? Is it feasible to complete the work by September 15?

ANSWER

Exxon's commitment to the cleanup of the Alaskan oil spill is clearly demonstrated by this summer's unprecedented mobilization, the huge array of resources that have been committed, and the progress that has been made. We intend to more than achieve, by mid-September, the objectives set out in the federally approved clean-up plan.

Over 10,000 people, predominantly Alaskans, have been involved in Exxon's spill response activities. Reaching this level involved hiring, training, and effectively deploying this large workforce within a short period of time. Over 3,000 of these workers have been directly involved in shoreline cleanup in Prince William Sound and the Gulf of Alaska.

Over 1,000 vessels of all types, sizes, and capabilities have been deployed. The largest number are fishing boats and other local vessels involved in various support activities. Many specialized vessels were brought in from outside Alaska, including skimmers, landing craft, barges, and berthing vessels.

In addition to the vessel fleet, about 70 aircraft have been used for a variety of functions, including medical support and environmental surveys.

At the July 20 hearing, Mr. W. D. Stevens, Exxon Company USA President, testified that as of July 15, 90 miles of shoreline in Prince William Sound had been treated. With more equipment and personnel in place, progress has accelerated, and as of August 26, 289 miles of shoreline had been treated in Prince William Sound out of 345 miles impacted. Exxon expects to treat the remaining 56 miles before mid-September. In the Gulf of Alaska, where the shoreline has generally been much more lightly impacted than in the Sound, Exxon has treated 716 miles and expects to treat the remaining 15 miles impacted before mid-September. These rates of progress are expected to provide an opportunity to re-treat some heavily impacted shoreline.

3. South Dakotans are very concerned, to say the least, regarding increases in gasoline prices due to the EXXON VALDEZ spill, especially when South Dakota gasoline outlets do not receive their supplies from Alaskan sources. How would you explain this imposition of increased costs on South Dakota citizens?

ANSWER

The concerns of South Dakotans are similar to those of citizens across the nation. These have lead to a number of investigations by state officials, as well as by the U.S. Senate's Subcommittee on Energy Regulation and Conservation of the Committee on Energy. The results of these efforts have consistently identified the same key factors contributing to the increase in motor gasoline prices: rising prices for crude oil, the imapct of seasonal demand changes, more stringent regulatory requirements, increased cost of product imports, and higher state taxes. In addition, reports by the Department of Energy, the Congressional Research Service and widely reported analyses by many private-sector experts have reached the same conclusions.

Crude oil is the largest single-cost component of gasoline. From November of last year until the end of March, crude oil rose 15¢ per gallon ($6 per barrel) to about $20 per barrel for widely traded West Texas Intermediate crude. This increase was largely in response to OPEC actions announced late last year. Crude oil production in OPEC countries is reported to have declined by 3 million barrels per day in the first quarter of this year from the fourth quarter of 1988, at a time when crude oil demand remained strong. Since the end of March, crude oil has generally fluctuated close to the $20 per barrel level. Because gasoline price changes generally lag crude oil cost changes, these crude oil cost increases were just beginning to impact gasoline prices in March. Since late March, much of the increase in gasoline prices can be directly attributed to the earlier crude price increase.

In addition, gasoline prices are seasonal and normally increase relative to crude in the spring as suppliers prepare for the summer driving season. Seasonal gasoline changes relative to crude ranged from 1¢ to 6¢ per gallon over the past four years. Also, it has been well documented in various state investigations and statements by industry experts that EPA-mandated nationwide controls on the reid vapor pressure of gasoline have increased the cost of producing gasoline by 1-3¢ per gallon. Although not a major factor in South Dakota, the cost of imported European gasoline needed to meet strong U.S. demand increased in April/May, on average, by about 8¢ per gallon above East Coast prices. In some states, increased state gasoline taxes are also contributing to higher prices.

All of these factors have contributed to the increase in retail gasoline prices for all companies. Since Exxon does not market in South Dakota, we are not familiar with gasoline prices in your state. However, retail gasoline prices nationwide rose about 15¢ per gallon to their peak in late April, but have declined about 2¢ per gallon by mid-August.

Senator Kerry. Thank you very much, Mr. Stevens. Let me just warn you, we have two votes back to back that are coming up here. The first vote has started, and I will begin the questioning, but I have a series of questions I want to ask. So what we will do is just recess very temporarily, go over and back. We will go to the back end of this vote so we catch the front end of the second vote, and then we will come back.

Let me leave aside for a minute whatever dispute there is between both of you, and I will come back to it because I think it is good to try to air it and have a dialogue about it here to see whether there is some middle ground or common ground. But I want to leave that aside for a moment.

I want to kind of look at the overview here for a second, if I can, Mr. Stevens, and I preface my comments by saying that I think Exxon has obviously spent a significant amount of money, has obviously mobilized a massive force, and is doing a very difficult job to the best of my knowledge as well as it feels that it can or is able to mobilize. I am not questioning that.

What bothers me here is a continuum, if you will, of public judgment and promise from which we fell short. And I do not know if you gather quickly what I am saying, and perhaps I need to say more about it.

You know, you go back to the early promises made by Exxon about the lack of capacity to really have this kind of accident. Then there was the promise that if there was an accident, there would be contingency plans in place.

Mr. Stevens. Mr. Chairman, may I respond for just a moment. There were not promises from Exxon that an accident like this could never happen. We have researched the records extensively to see if there is any basis for such a statement. We can find none.

Senator Kerry. Promises that the likelihood of it happening were extraordinarily——

Mr. Stevens. There is no question that any statistician would tell you that.

Senator Kerry. Well, clearly, the statistics have been proven somewhat fallible in the last weeks as we have seen spill after spill in the course of just this summer, not to mention historically they have been rather less than sporadic.

Mr. Stevens. I am sorry. I was responding.

Senator Kerry. No, that is fair. But what I am saying is that I sat here and listened very carefully in the first hearing and, in fact, asked a lot of questions personally. I go back to the first hearing and to the May 10th hearing and at that time you say—and I am quoting you—the plan submitted May 1st included resources adequate to complete shoreline clean up on schedule.

That is September 15th. That is your statement. Now, that is the plan that was submitted before Admiral Yost and company got you to augment. That was the day there was a Fax exchange from the Admiral on situs who said we need more, and you communicated here. If they say they need more, we are willing to provide more, and so at the urging of the Coast Guard, you provided more.

And at that time—you said to us the plan submitted on the 1st which Admiral Yost said he needed additional personnel and so forth, and you put in more. And I asked you the question, "You are saying that plan which has cleaned 1.7 miles of beach in 40 days is going to clean up 400 miles in 128 days." Your answer, "Yes, sir." And the word was "cleanup" and "yes, sir, it is going to be done."

My next question was, "How do you do that." You said, "carefully and with a lot of effort." Then I said to you, "Seriously, how do you do that." And we pro rated it out and then you talked about how you were going to do, and I quote you again. "Let me give you the events having to do with shoreline cleanup. Here are eight other agencies for shoreline cleanup strategy," and again, "the testing of the shoreline beach cleanup methods was done under the auspices of the shoreline cleanup committee," and it went on. And the only thing we talked about was "cleanup," and the only thing we talked about was in the context of this time period.

And your final comments to me as I kept pressing and expressing my skepticism that you could do this, you said, well, "Mr. Chairman, obviously we feel we can or we would not be standing up here or submitting a plan that publicly commits us to getting this job done.

One of the things we value is our credibility. When we say we are going to do something and have it done, we are committed to doing it."

Now, everybody has said to us, Admiral Yost, Mr. Kelso, most judgments and you are saying it is not going to be cleaned up. So, do you see the problem of credibility step for step?

Mr. STEVENS. No, I see the problem of definition with the term "cleanup" that Mr. Kelso and the Admiral have both spoken to. And, of course, cleanup is very much in the eyes of the beholder, and it was for that reason—and again, I cannot go back and specify who originated the term or brought it forward, but I do look at a letter from Vice Admiral Robbins to the shoreline committee. They did this May 21st, talking about cleanup procedures and how the job was to be done, and this is dated May 21st, which was 11 days after we were here.

And this is the first written record that I recall of the use of treatment.

I do not believe, though, Mr. Chairman, that there has been any change in the concept of what is going to be done in terms of the job. But, again, your understanding is a demonstration of the trouble with cleanup.

Senator KERRY. Well, I want to explore this a little bit. We are under pressure now on the back end of this vote, and so let us just recess very temporarily until Senator Stevens and I can return from this vote.

[Recess]

Senator STEVENS [presiding]. Gentlemen, we have another hearing here at 2:00 and you all have been waiting some time.

Mr. Stevens, we have had a discussion recently concerning the activities. I would not repeat that conversation. I am pleased to hear that you are making progress. And while we still have some very serious differences of opinion, we are all trying to work towards a satisfactory conclusion.

I have raised the question, as you know, about the deadline. And I read your statement again saying that you do intend to finish this year's activities in mid-September. Is that based upon some feeling or prediction of the weather or just that you think that you will have accomplished by then what you can do this year efficiently?

Mr. STEVENS. It is much more the former than the latter. That is, it is clearly weather-related. Our intention, of course, is to be completed by then, but the firmness of the date is clearly weather-related. And as I say in my statement, we are convinced that somewhere around that time frame, and you know the weather there, Senator, perhaps better than I, it could be earlier, it could be a bit later, somewhere around that time frame our ability to work people safely—and I am talking about threat to life and limb in an offshore environment and on exposed shorelines—will become severely limited.

Senator STEVENS. I have spent a great deal of time in my life on the Prince William Sound, and I have seen it snow before then, and as I said earlier, I have seen it beautiful much later than that. So I think it is a subjective thing you are really saying, right? I mean, you are going to look at the weather at that time?

Mr. STEVENS. It is not temperature-related. Well, we have got 10,000 people, many of whom are quartered and working off of flat-bottom vessels. That is a far different situation than a tanker or a sea-going ship designed for Arctic rough weather.

It is not temperature-related, Senator, it is wind- and wave-related.

Senator STEVENS. I see.

Mr. STEVENS. And we have got to transfer people from one vessel to another. We have got to transfer people from a vessel to a shoreline. We have got to deal with tidal cycles, as you know, which are rather massive and fairly swift currents. And again, as I say in my statement, in our view, in respect to the mid-September time frame, our ability to work safely in an offshore environment and on exposed shoreline dictates a conclusion that we shut down about mid-September.

If you would like, I could show you a couple of pieces of data that are directionally why we draw that conclusion.

Let me see the wind and wave chart.

This is windspeed. And we are showing, by month, winds in excess of 17 to 27, 28 to 40 knots, and over 40 knots. And you can see very graphically the weather window, if you will. Now, you notice that as we have defined the weather window on monthly average data, we are saying that it is about April to August.

But let me say, Senator, that I visited with some of the crew on the ship *Exxon Valdez* five days after the accident. And as you know and as you have said, two days after the ship grounded, we had beautifully calm weather. And the forecast was for more of the same. And on Sunday evening, Easter Sunday, a 70-mile-an-hour gale came up. It blew part of the roof off of the airport at Valdez. And to listen to the people on that vessel talk about their experiences that night during that blow makes me have no question that I do not want not only 10,000 people, I do not want 1,000 people out on flat-bottom vessels trying to work in the latter part of September.

And you will notice how much more steeply this windspeed curve rises coming into September, from August to September, than it does to May. Now, again, this is about 10-year average data, and there have been years that have been different.

Senator STEVENS. Yes. I accept that. And I understand that.

What about the bioremedial activity? Is that affected by wind, tide and sea conditions? I should think that there ought to be some of this that can continue to be put in place. Are you saying you are going to shut down entirely, or going to shut down the task force operation?

Mr. STEVENS. Well, we are very fortunate in that we have found an oil-based olcophilic—a chemical which is attracted to oil to do the bioremediation. In other words, apply the fertilizer to make the bacteria flourish. And once that is on the oiled rock surface, to the extent that there is any stickiness there, it should stay through wind, wave and tidal cycles through the winter.

And our scientists say that lower temperatures and maybe a little less sunlight, particularly as we come into the December time frame, will have a little less effect, it should continue to work through the winter. And that is why we are so anxious, if you will, to apply, presuming that the scientists in the next two weeks, under EPA leadership, reach a conclusion that it is environmentally safe, that is why we are so anxious to get this material applied before we get in a situation that we cannot do that.

Senator STEVENS. Now this may seem sort of strange to get into this, but the areas completely surrounding this spill, as I understand it, are federally owned. I inquired and there are no areas where this waste could be disposed of on land. It is my understanding that we do not have any landfills in any of those areas: the national forests, national parks, national wildlife area. Some of them are bird refuges, even the Barren Islands are bird refuges. And that is what led to the decision to send this oily waste down to Oregon and to burn what could be burned. How much have you got backlogged now that you seek to burn?

Mr. STEVENS. We have collected about 16,000 tons, or 32 million pounds, and I think the chairman asked that question earlier——

Senator STEVENS. That is backlogged now already?

Mr. STEVENS. No, pardon me. That is the total amount collected to this point in time: 15,700 tons. About 13,000 tons of that has gone south. It has already been moved down to Oregon. We are anticipating a total oily waste tonnage of about 40,000 tons or 80 million pounds, if you will.

Senator STEVENS. And how much of that is scheduled, under your plan, to be burned?

Mr. STEVENS. We had scheduled to burn probably two-thirds of it originally. That is no longer possible because of the delays that we have experienced. To this point in time, I think we have burned about 1,000 tons of the 13-or-so-thousand that have been handled.

Senator STEVENS. Is there a limit on the amount that can be disposed of in Oregon?

Mr. STEVENS. My understanding is possibly not within the range that we are expecting to have material available. But I would say one thing. It was either a conversation with Vice Admiral Clyde Robbins or with Admiral Yost; someone was expressing regret, really, that a hazardous waste dump, which is the site that is being used in Oregon, has to be utilized, if you will, filled up with what is classified as non-hazardous waste material.

But my understanding is that we could probably dispose of all of it down there. The difficulty, Senator, as you and I talked briefly yesterday, is that we have got, as the photograph that Mr. Kelso used earlier shows, a tremendous backlog of this material. We have got a lot of problems in logistics, in terms of barges, so forth and so on. And again, my anxiousness, my sense of frustration that I shared with you earlier is driven by the fact that logistically we may, in the next few weeks, begin to limit the pace of cleanup because this problem has not been handled in a timely fashion.

Senator **Stevens**. Well, I only raised it, Mr. Chairman, because yesterday another Senator, and I do not think he would wish to be involved in this conversation, told me he had a complaint from a constituent about the amount that is being moved south, and wanted to know why we did not take care of it in Alaska. I tried to explain to him we do not have landfills that are approved in Alaska.

And what is more, the only shore land there within literally 100 miles belongs to the Federal Government. And the Federal Government does not allow it in these reserved areas. So, once it gets on a barge, it might as well be moved to where there is a landfill, right?

Mr. **Stevens**. Well, let me show you what is being done, though, in order to handle this, Senator. And this is again, a degree of the ridiculousness of it. We are having to take this material out of Prince William Sound and out of the Kodiak and Kenai areas into Anchorage by barge, where it is shredded and rebagged, loaded back on the barges and taken to Oregon.

Whereas, if we had these incinerators in use, we could dispose of I think all of the material in Prince William Sound, right there on site.

Senator **Stevens**. Mr. Chairman, thank you very much. I had started in your absence.

Mr. **Stevens**. Mr. Chairman, could I finish responding to your earlier question on credibility?

Senator **Kerry** [presiding]. Absolutely.

Mr. **Stevens**. You made a couple of points. You were talking first about mileage, the commitment of mileage and getting the job done by mid-September. And then you had a point, I believe, about the definition of treatment, and was Exxon, if you will, changing the rules of the game as we go in order to put ourselves in the most favorable light.

Well, first, let me speak to progress. And this is an attachment to my written submission. And what it shows—let us just speak with Prince William Sound for a moment—what it shows is progress versus the target: 209 miles.

Now, admittedly, since this plan was put together——

Senator **Kerry**. It shows 209 miles?

Mr. **Stevens**. The target of 209 miles. Well, Prince William Sound. Pardon me. Within Prince William Sound.

Senator **Kerry**. All right, this is within the Sound?

Mr. **Stevens**. And the total, as you know, is 730, which includes, then, 500-plus in the Gulf of Alaska.

Now versus that target, we are about on schedule, or on schedule, if you will.

Now, unfortunately, since I was here May 10th, we have completed—this is an ADEC survey, and in cooperation with ADEC, NOAA and the Coast Guard, we have completed our own intensive survey in Prince William Sound. And we now have an estimate of 345 miles in Prince William Sound. And again, we are, if you will, operating on an original plan that was targeted toward this level, but we are doing everything we can, in terms of people and equipment to get the job done, as I indicated to you earlier, in terms of a higher number.

In the Gulf of Alaska, since I was here in May—of course, the target has changed very majorly. Fortunately, most of that is very lightly impacted oil. And that is one of the difficulties with this scare chart that Mr. Kelso uses; where he has these big pink blobs all over that part of the world. And I shudder to think what that is doing to the tourist industry and the fishing industry in Alaska, in terms of national and international view toward it.

That is a vast overstatement. Yes, there is 500-plus miles in the Gulf of Alaska impacted. But to think of that looking anything like that photograph that he showed is just, as Senator Stevens will say to you, a total misnomer.

We are talking about shoreline areas that range all the way from short stretches that may be heavily impacted by this mousse, to other stretches where you may have one tar ball or one six-inch patty of mousse in 50 feet or 200 or 500 feet. We are committed to cleaning that up and we are working on it. I do not mean to say that is not a problem. It is. But, still, what I am trying to do, if you will, is verbally give you a graphic picture of how misleading that map is.

Now, let me make one other point on your second point about treatment. This is a flow chart of the organizational decision-making process having to do with shoreline restoration or shoreline treatment. Let us not get hung up on the word.

And what it shows is an interagency shoreline advisory committee that is helping set priorities, helping describe what needs to be done into our work, which focuses through Vice Admiral Robbins, who is the federal on-scene coordinator. And here again, that committee is interacting directly with him. He approves what we plan to do. So I commented earlier about moving off of Green Island early because we had to get some other islands to fish. This was all approved and worked through these committees.

The change in definitions, if you will—if you want to call it a change—it is not a change in what was intended to be done from cleanup to treatment. All of these parties are involved. Everyone.

And then what is finally done, in terms of moving off of a shoreline, is approved by the federal on-scene coordinator. Again, with direct advice.

Senator **Kerry**. I understand it is all approved.

Mr. **Stevens**. But let me make one point. Exxon does not change terms, cleanup to treatment. Exxon does not decide unilaterally, we are a key player, unilaterally what is going to be done with the cleanup. It is very much, as it should be, a collective effort.

Senator KERRY. Well, it is a collective effort. I want to make certain you understand something. I am not trying to berate you about this or somehow sit here and simply have a one-sided conversation. But I am trying to explain to you that from a layman's perception, and from my perception as an observer of this now for a matter of months, and as somebody who sat here and listened to answers, I believe there is a credibility problem.

The title at the head of that chart is not shoreline treatment decision chart, is says "Shoreline Restoration."

Mr. STEVENS. Those were the words that we used in the Admiral's letter of April 17th.

Senator KERRY. But this shore is not going to be restored. I mean, that is what we have just learned today. It is not going to be restored by the 15th of September. Yet that chart says "restoration." Now, in the same way as that chart—let me finish this time and then I will be happy to have your comment. I sit here and I see restoration. I listen to your testimony, it says cleanup.

Now, when Captain Williams sat here dealing with the State of Rhode Island, he said it is cleaned up. And I was down there last weekend. Do you know what? It is cleaned up. It is what the literal word cleanup means. They did not say we have fully treated Rhode Island. They said we have cleaned it up—restored.

Now, that is just not what is going to happen in Alaska. Now, I am not sitting here and saying you can do the impossible. And it may well be impossible. But the credibility problem comes from having come to this point in July where I think there was a different expectation.

Now, I am not arguing with you about changing the term, in a sense. And I do not think you did it unilaterally. I think everybody has agreed this is a tough situation. You know, Commissioner Kelso has said if you want to redefine what hell is all about, you can assign somebody to scrub off rocks, beach by beach. So I do not disagree. I think you have got your work cut out for you. I think it is an impossible job.

But, in terms of the expectations that were set, and one of the reasons for coming here in July was to measure the progress of the cleanup. Now, what we have learned here today, and we have kind of had a first each time we have come here. Last time we were here the first was Admiral Yost saying I do not think it can be done. I do not think they are going to meet the schedule. The first today is a redefinition of terms and admission that we are going to come to September 15th, and these beaches are still going to be oozing oil, and there is still the potential damage.

Now, you may say that people are not affected, et cetera, but the marine mammals and so forth that crawl up on those beaches or the birds or whatever, which I understand from Senator Stevens, most of them are smart enough not to get near it, but notwithstanding that, there is that potential for continued injury. And that is just far from a restoration.

Now, the credibility gap I think comes from the misuse of terminology, maybe a misinterpretation of expectations or maybe a misstatement of capacity early on, relative to the reality of what we have learned about this spill. And I am not saying it is your fault, but I think the important thing is not to now compound it as we proceed on by saying well, we are still going to have this, and here is what we are going to have done by the 15th. And that is just an impression that I have, that there really is something of a gap here.

And I guess it gets reinforced—maybe you want to comment on the report that came out from the State of Alaska from the oil spill coordinator—but when there is a conclusion about contributing to the environmental damage was the failure of the Alyeska Pipeline Service to respond to the oil spill, and they call it a catastrophic corporate failure and human failure. You know, the only corporate entity that is charged with the responsibility here is Exxon. So that is where I am saying this gap is created.

Now, how you deal with it, I think, is going to be how we mitigate these lasting effects, obviously, or just the ongoing cleanup process. But I think it is because maybe there was too much optimism or too much stated capacity.

Mr. STEVENS. Well, Senator, obviously, I cannot speak to your interpretation or your perspective coming out of the last hearing or some of the intervening events. I can say this, though, we in Exxon have never promised that we would do the impossible. I would think, in some respects, what has been accomplished has never been done before.

Senator KERRY. Absolutely.

Mr. STEVENS. And we are committed to treating all of the impacted shoreline—certainly, what was included in the plan. And we are going to give it a go between now and mid-September to go beyond the plan figures.

We have spent, to this point in time, over $600 million, and we have got a fair amount of distance to go through the course of this summer. We have moved our organization and people. And we have got people in many of the communities that Senator Stevens represents today that are dealing with people problems, that Mr. Kelso commented on earlier, on a day-to-day difficult basis.

We are trying to treat all of the impacts of the spill the best we know how. And I do not know what else, Senator, we can do in order to try to convince you that we are credible.

Senator KERRY. I think one of the best things you could do is sit there and say, senator, we found that this was bigger than we thought it was, and we found it is tougher to get it out of there than we thought it would be. Indeed, while we thought we might have been able to totally restore, we are only going to be able to treat.

I mean, I think it is the resistance level that perhaps is a little bit disconcerting. I do not want to belabor this because I personally praise you for, to a degree, a larger corporate responsibility than one has seen in many sectors historically, and I do not want to be pictured as somehow suggesting that there is a willful—I mean, I think you have done pretty well.

I think it is too bad that there still remains this sort of credibility because I think you have made a best effort, and you still are. I am trusting you are going to continue to do it, but I think it compounds your problem nationally—not just in Alaska but nationally—when people measure the Alaska report against the expectations about their common understanding of the word "cleanup" with the reality of where things are going to be. That is all I am saying.

If you can just sort of swallow hard and say, you know this is a little bigger, but that is not diminishing at all the $600 million we have expended or the continued effort, that I think would go a long way towards assisting the process.

Mr. STEVENS. Senator, again I submit that the problem is in the eye of the beholder in terms of early use of the word "cleanup" and it is exactly that reason that led to the use of the word "treatment." If we—and when I say "we" I am talking about this organization—have been careless in the use of a term, yes, possibly. But I do not believe that most of us who were involved from the early days ever expected pristine rocks, pristine shoreline, in this vast area.

Senator KERRY. Let me ask you a couple of other questions aside from that, which I think are important to this process. Is there anything more that you can do in terms of dispersant testing? Do you feel that some of the—I mean, Commissioner Kelso has talked about perhaps broadening the horizon in terms of testing and other options. Do you feel that might be a route to explore?

Mr. STEVENS. Senator, if we do not get a decision made for us, because we are ready to go, by the involved scientific community—again, ADEC being a principal player in that—in the next week or so, we will forego the opportunity to use chemical cleaning agents this year and therefore the quality of treatment will be poorer than it need be and again, that is why I shared my frustration with you earlier.

Senator KERRY. Who has got to make that decision?

Mr. STEVENS. The ultimate decision as shown here will be made by Vice Admiral Robbins, but he does that with advice from the affected agencies—EPA, ADEC. I could give you——

Senator KERRY. What is the deadlock in getting this decision?

Mr. STEVENS. Well, maybe Mr. Kelso would like to speak to that. I am sure he has some insight.

Senator KERRY. Let me try to get at it. Commissioner, what is the problem here? We are a week away from maybe foregoing this use of additional dispersants. Is there a problem?

Mr. KELSO. The problem is that Exxon has not supplied toxicity data, any information about bio-assay work, or even the basic chemical constituents. Basically what we are looking for is just——

Senator KERRY. You do not have that information or expertise available otherwise?

Mr. KELSO. That is right. It is proprietary information. Correxit 9580 is an Exxon product.

Senator KERRY. What about that, Mr. Stevens?

Mr. STEVENS. Well, if we have not provided it then obviously, because it is very much in our interests to proceed and use it, it is amazing to me that with field tests and scientific debates and discussion going back to May 18th, that someone has not asked for it before he showed up in Washington.

Mr. KELSO. Well, Mr. Chairman, if I could follow up, the tests that Mr. Stevens is talking about are not on this compound. Those were other Correxit formulations that were evaluated and they did not work very well and so that is why they moved on to another approach. They tried a BP compound and now they are trying this one.

We like the idea of being able to use a safe chemical approach along with other approaches and all I am suggesting is——

Senator **Kerry**. Well, is this a new compound on which there is not data, Mr. Stevens?

Mr. **Stevens**. No. It is an adaptation of some of the other——

Senator **Kerry**. Is there data?

Mr. **Stevens**. Yes, certainly, and here again the involved agencies have been meeting on this for the last two weeks in Alaska intensely—I read you the statements—and Mr. Kelso has to come to Washington—has to come to Washington—to say we do not need any more tests, all we need is data.

Well, I have the statement of his people here, as interpreted by the Chairman of the Committee, who is with NOAA, to the contrary. Now, you know perhaps Mr. Kelso and I ought to spend some time together in Valdez and see if we cannot get this operation off of dead center.

Senator **Kerry**. Maybe you ought to spend some time together the minute this hearing is over and see if we can get it

Senator **Stevens**. Mr. Chairman, if I could interrupt, I would sort of be involved and be happy to tell you that I am available to be the mediator at any time.

I am going to be at home in August and I am going to be down there again and I would be happy to try and join, I am sure, Admiral Kime or Robbins or Yost or whomever and Bill Reilly is going to be there.

I think we ought to get this thing settled. I hope we can get it set before August, but I will come up any time you say. I think all of us would. I am getting worried now, Mr. Chairman, and I was going into that as you came over, of what is going to happen if Oregon says, you cannot bring any more of the stuff down there in terms of the burning, and I am getting a little worried about the time frame of getting some of these dispersants out.

I understand what Mr. Kelso is doing and I think we have got to be most certain about it, but if there is some misunderstanding that can be eliminated, I think we ought to pursue it, because we really have got some time sensitive decisions to be made here.

We are less than two months away now from the end of this course for this year, if I have understood the testimony, and that is very little time to manufacture and get on the site the stuff that might help finish this job up this year.

Senator **Kerry**. Well, I second what Senator Stevens is saying and it will just be a tragedy here if—you know, I understand from the opening statement this is a forced marriage and maybe it does need a mediator and a counselor, but it just seems to me there is too much at stake to have any parties at the date of September 15 be able to point the finger at others and say, "Well, they did not ask, and they did not specify;" "well, they did not have the right data." If for those reasons something as important as this cleanup, which has spent $600 million and the Coast Guard effort that would be the worst possible outfall of this tragedy.

Mr. STEVENS. Mr. Chairman, you just paraphrased my conversation with Admiral Yost the evening before last. We have got to quit criticizing and start trying to be constructive.

Senator KERRY. Well, what about the incineration aspects of this, Commissioner? What is going to happen with respect to the waste issue? Are they going to be slowed down in their capacity to do this by virtue of nowhere to put the waste?

Mr. KELSO. Mr. Chairman, no they are not. They have four sites already that are available for temporary storage. They have adequate capacity. I talked with the operator of the facility at Arlington. They have ample assured capacity right now, and so if they want to they can take the material directly to Arlington. The handling that Mr. Stevens referred to is Exxon's management choice, not ours, so we are happy to work with Exxon on whatever safe alternatives.

Mr. STEVENS. Exxon is not going to take any compromise with protecting the environment and this is the safe way to handle that waste in terms of its transit to Oregon.

Senator STEVENS. Well, I am constrained to say, Mr. Chairman, I had this argument with the President himself about federalizing this effort and this is a good example. When it comes right down to it, Admiral Yost does not have the authority to make the final decision. It has to be sort of a cooperative decision that is made.

If we are going to change that law, hopefully we will change that quickly but until we do, I think he does not have the authority to make the final decision. I am sure he would join us, though, in trying to work out the differences between the two of you and between the people that work with you so that we do not have a hiatus in terms of the operation for the balance of this year.

Mr. STEVENS. Well again, we do not have to work our differences out. We may still have strongly held and reasonable differences of view, but what we need to do again is try to make progress and even if we have differences, if the various agencies involved, including the Alaska Department of Environmental Conversation, will just advise the Federal on-scene commander so he can make the decision, we do not have to agree. But the Coast Guard in this case can make the decision, but obviously he is going to listen to Mr. Kelso to an extent.

Senator STEVENS. Well, the difference between this and Rhode Island is it was federalized and it also was not crude oil, but I think that the difference comes out to be that there was someone who really was totally empowered to make the decisions after the first half-hour.

But I again say to you, I am sure that there are many of us who will come forward and help mediate any differences that are there. I am worried by some of the things I am starting to hear about the pileup and I agree with you, Dennis, that there are plenty of places to put it temporarily, but I do not know what we are going to do if we have to start moving that stuff down to Oregon when the Gulf starts kicking up this fall.

This thing has got a time frame now for this year, or else it is going to be there in those temporary sites until next year, as I understand it. I would urge that we work something out.

Mr. KELSO. Mr. Chairman, if I could say—actually, I would like to make two points. One has to do with the comments about solid waste and about dispersant use on the shoreline.

My staff has standing instructions to expedite consideration of these matters, but at the same time I know that this Committee wants decisions like this to be made responsibly so that we continue to provide protection, so we do not have further damage and so that the people who live in the area are not exposed to things like dioxins.

That is why this is not a situation where we have some dispute about how the bureaucratic flow is supposed to go—not at all. These are technical matters. They have to do with the risk that people are going to be exposed to. We are prepared to work with Exxon however it needs to be done to get the job done right, but it has to be done right.

Senator KERRY. Nobody is questioning that. The problem is that when you get to a decision point where within one week, because of the inability to come to cloture as to what the methodology will be and you have one week before you may be losing an opportunity to maximize the treatment, you have a problem.

Mr. KELSO. I agree. That is not the case here, however, and I think that is misleading for Exxon to suggest that. This compound they want to use is not even on EPA's approved list. This is a new compound. It has been reformulated, or an adaptation if that is the correct term. But the point is, we do not even have that information and how can a reasonable person approve the use of that kind of material until we have the information?

Senator KERRY. What is your reaction to that, Mr. Stevens? You just said Exxon does not want to be responsible for any kind of environmental damage, obviously, and the EPA does have its standards. If it is not on the approved EPA list, by what method do you think——

Mr. STEVENS. I will take you back to the statement I used earlier and this is with respect to the shoreline R&D Committee. The Chairman of the Committee, also representing NOAA, stated that ADEC's position was in conflict with the previous position of all the agencies. I am not a scientist, I am not involved in that committee, but it would seem to me that——

Senator KERRY. Has EPA signed off on that?

Mr. STEVENS. No. Well, I cannot say EPA——

Mr. KELSO. I checked yesterday, Mr. Chairman. EPA has not signed off on it but these issues are really diversions. The point is, we have got a long way to go. We have to deal with solid waste, we have to deal with finding more innovative techniques on the shoreline.

The reason I showed you this picture was not to suggest that Exxon is doing something sinister or that they are messing up somehow, but rather to say we need them to commit to being here, working in the field as long as possible and safety is a priority.

Senator Stevens is certainly right about the variability of working conditions throughout the spill. The chart that Mr. Stevens showed you was for Prince William Sound. Now, we have got—most of this area, I think you pointed this out—for the spill is outside of Prince William Sound, and the winter in Kodiak is very different than the winter in Prince William Sound.

We are just saying, let us find a way that Exxon can continue at an appropriate level as long as the conditions allow, maintain a field presence over the winter for some specific functions and then start up again in the spring. We will work with them. We need to hit it hard. But we have not heard that commitment and what we hear from Exxon is pulling away from that commitment.

Mr. STEVENS. Senator, your comment was dealing with dispersants. Mr. Kelso has a tendency to want to change the subject in the middle of a paragraph.

Let me just say that what we would like with respect to dispersants is, as Senator Stevens said a moment ago, we would like for Mr. Kelso to keep his eye on about the middle of September in terms of the job ahead of us to be done and the fact that the time line is fast closing on us and we are not going to be in a position to apply dispersants.

We do not go back to beaches that have already been treated to apply dispersant. Dispersant is an aid to the on-going treatment process and every shoreline treated without this surfactant cleaning agent is a shoreline that we pass the opportunity to do the job as effectively as possible and I ask really, Mr. Kelso, to keep his eye on the ball. Let us get the job done and let us do what it takes to get the job done.

Senator KERRY. A quick question, Mr. Kelso, and we have to wrap up here momentarily, but if EPA signs off on this, are you signing off on it?

Mr. KELSO. As soon as we see what the toxicity data are, we are ready to move on this but we need to have that basic information.

Mr. STEVENS. Well, that is not what his representative said. His representative said test, not data.

Mr. KELSO. Mr. Chairman, I think I have been pretty patient with Mr. Stevens personalizing this, but I do take exception to his misrepresenting. There is a line here that I think has to be drawn in this kind of a proceeding. That is not the situation. We are prepared to take action on this as quickly as possible.

Senator KERRY. Are you prepared to take action on the basis of data, or your own test?

Mr. KELSO. On the basis of data.

Senator KERRY. If the data are provided to you, you will decide?

Mr. KELSO. That is correct.

Mr. STEVENS. It will probably be there before the day is out.

Senator KERRY. Okay. Let me ask you, Mr. Stevens, if I can, and I hope you will answer. The legislation that has been reported out by this Committee, are you familiar with it, with what we have suggested now?

Mr. STEVENS. No, sir. Not in detail.

Senator KERRY. Well, let me just give you a quick summary. It ranges from recommendations to require a certain number of people to be on the bridge of oil tankers and in specified waters it would prescribe functions and qualifications.

It would enhance the authority of the Secretary of Transportation to obtain driving records of Merchant Marine personnel licensed by the Coast Guard. It would require mandatory periodic random reasonable cause and post-accident screening for alcohol use by Merchant Marine personnel in safety sensitive positions.

It would—I do not want to bore you with the ministerial aspects of it—but it would direct the Secretary to determine whether oil tankers should carry position reporting and identification equipment to aid in radar tracking of those vessels.

It would require that all designated oil tankers that are newly constructed be equipped with double hulls and double bottoms unless the Secretary finds through rule-making that that would not enhance navigation safety.

It would direct all designated oil tankers that they prepare oil spill contingency plans and submit the plans for approval to the Secretary. It would increase the Federal role in the event of an oil spill greater than a million gallons. Finally, it would establish a National Council on Oil Spill Technology Research and Development.

Now, in principle are you supportive of those kinds of efforts?

Mr. STEVENS. We are supportive of comprehensive oil spill legislation. I will not comment on every point because I did not get them all down, and many or a number of the points you mentioned being included in the legislation were in our recommendation which was submitted last Friday along with the states' recommendations to the National Transportation Safety Board.

Many of the specifics you mentioned were our recommendation. Some of them have in fact already been instituted where we have the right to do that.

Senator KERRY. I think it would be helpful to the Committee, particularly in the wake of your role in this particular problem and the experience learned from it, et cetera, I think it would be helpful if we could get a more specific comment on our piece of legislation, and maybe we could ask you to do that within the week or so. We are going to try to expedite this, and I think your input on it, frankly, could be helpful.

Mr. STEVENS. We would be very pleased to do that, Mr. Chairman.

[The following information was subsequently received for the record:]

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C. M. HARRISON
EXECUTIVE VICE PRESIDENT

August 2, 1989

The Honorable John F. Kerry
United States Senate
Washington, D.C. 20510

Dear Senator Kerry:

During testimony by Mr. W. D. Stevens before your subcommittee on July 20, you requested that Exxon provide comments on oil spill legislation that has been considered by the Senate Commerce, Science and Transportation Committee. Attachment I provides comments on selected sections of the Committee staff working draft of the "Oil Tanker Navigation Safety Act of 1989."

As you may be aware, Exxon has long supported comprehensive federal oil spill legislation. The important principles Exxon believes essential for inclusion in any such legislation are:

- All oil spills in U.S. navigable waters should be covered by a single body of federal law.
- It should supersede state jurisdiction and be applied to the exclusion of other federal laws.
- It should provide a single, "capped" fund to be available to cover all clean-up costs, as well as to satisfy legitimate claims. Existing funds should be rolled into the single fund with credit to contributors.
- Vessel or facility owners should be responsible up to a specified limit which should normally cover small spills and a portion of larger spills. All costs above these limits should be covered by the fund.

Additionally, following the VALDEZ accident, the American Petroleum Institute (API) formed an Oil Spill Task Force which has recommended a number of action steps summarized below to enhance oil spill prevention and response capabilities in U.S. waters. Exxon also supports these recommendations.

o The first is an expansion of the national oil spill response capability. This would include five emergency response centers in the Lower 48 (two on the West Coast, one on Gulf Coast, and two on the East Coast). These would be capable of responding to large catastrophic spills and would supplement local response organizations capable of handling small spills and eliminate the need to build up large response capability in each port. Also, in Alaska resources are being expanded to provide a similar major response center.

- Second, there are several measures which Exxon supports that can help prevent oil spills. Those which would require legislative action include higher qualifications and standards for state pilots in all U.S. waters and expanded Coast Guard authority to check the drivers license records of marine licensees.

  Other spill prevention steps which we support and which do not require legislation include:

  - Expanded alcohol testing of marine licensees
  - A study aimed at expanding Coast Guard vessel tracking systems and requiring mandatory participation in these systems
  - Coast Guard designation of extraordinarily hazardous areas with special regulations governing vessel operations in these areas
  - Retrofitting of auto pilot alarm systems
  - A study of vessel design features, such as "ballast sides," reduced compartment size, and double bottoms, by an independent scientific body, such as the National Academy of Sciences

- Finally, Exxon supports additional oil spill research and development including:

  - Activities proposed by the API to study the chemical and biological effects of spilled oil on the environment, techniques for on-water recovery and treatment, and the prevention and mitigation of shoreline impacts.
  - Studies under way by Department of Interior with support and funding by API aimed at improving oil spill prevention and clean-up technology and procedures.

Exxon would be pleased to discuss specific provisions in more detail with you or your staff.

Sincerely,

CMH:bz
Attachment

c: Mr. W. D. Stevens

ATTACHMENT I

"OIL TANKER NAVIGATION SAFETY ACT OF 1989"
Senate Commerce Committee Proposal
6/26/89 Staff Working Draft (unnumbered)

Title I National Provisions

General: The following sections do not require legislation--101, 103, 104, 112, and 114.

Section 101. Pilotage requirements

Comments:

- Support. The 180 days provided to qualify a second pilot is too short. Also, recording position every 6 minutes is unnecessary; every 10-15 minutes is more practical.

Section 102. Licensing requirements

Comment: Support.

Section 103. Periodic, random, for cause, and post-accident alcohol testing.

Comment: Support; expand to provide for license revocation for violations in appropriate situations

Section 104. VTS systems study

Comment: Support; also favor additional provision requiring mandatory participation in VTS system

Section 106. Double bottoms, double hulls, or tanker size limits on new vessels subject to Secretary's determination.

Comment: Support a National Academy of Sciences study on viability of double bottoms/hulls; oppose legislation which requires double bottoms/hull prior to completion of independent study; oppose vessel size limit

Section 107. Detailed vessel contingency plans; USCG responsible for spills over one million gallons

Comment: Support vessel contingency plans aimed at preventing or controlling spills from vessels. Oppose plans requiring on-board oil spill response equipment/personnel.

Support the Coast Guard assuming management of all large spills in U.S. navigable waters and of small spills if spiller's response is inadequate. Procedures should clearly provide for rapid decision making by on-scene coordinator. All contingency plans to deal with cleanup of large spills should address the use of dispersant and burning, in addition to mechanical cleanup to reduce shoreline impact.

Section 108. International inventory of equipment and personnel

Comment: Support; proposed Petroleum Industry Response Organization (PIRO) will also maintain nationwide inventory

Section 109. National Council on Oil Spill Technology

Comment: Duplicates efforts currently under development through API (PIRO); support study by DOT Secretary with input from other agencies and interests; question need for and effectivness of large council as outlined in draft legislation

Section 111. No preemption of any state authority

Comment: Oppose; uniform nationwide standard needed

Section 112. Authority to deny access to any vessel violating act

Comment: Support

Section 114. Fees

Comment: Provisions in Act most appropriately funded from general revenue

Title II Provisions on Alaska

General: The following sections do not require legislation--201, 202, and 203.

Section 201. State pilot between Valdez and Bligh Reef

Comment: Support

Section 202. Light on Bligh Reef

Comment: Support lighted, radar enhancing buoy

Section 203. Expanded VTS for Prince William Sound; study of requiring positive control of vessel traffic

Comment: Support expanding Prince William Sound VTS; oppose positive control

Section 204. PWS Oil Spill Recovery Institute funded from TAPS Fund

Comments: Oppose diversion of TAPS Fund to nonliability purposes. Millions of dollars are being spent on Prince William Sound environmental studies as a result of the VALDEZ spill, and research on oil spills is being expanded through the API sponsored research activities and the DOI, for example, and the need for an additional public research institution focused only on Prince William Sound should be carefully studied.

Section 205. Increase TAPAA incident liability to $750M, vessel owner responsible for first $70M.

Comment: Oppose; a single spill fund for entire U.S. is needed.

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Senator **Kerry**. Let me just ask, in fairness to both of you, is there any statement or point that has been made that either of you feel is essential that you want to respond to at this point before we close? I do not want anybody to feel they have not had a chance. Mr. Stevens, do you have anything you want to add?

Mr. **Stevens**. I believe not, Mr. Chairman.

Mr. **Kelso**. Just one point, Mr. Chairman, and that is the three things that we are looking for in order to keep this moving effectively are: to work as long as the weather conditions allow, safe effective operations; to maintain a winter field presence in conjunction with us—we are going to be there—and third, to be ready and use the winter to prepare for an early start-up in the spring and to be committed to come back in the spring, and those are points which I have not yet heard Exxon agree to do and I think that is a very important thing, because we hope that they will.

Senator **Kerry**. Let me ask you—I meant to ask you the question as to the last point. Does Exxon intend to—given the situation where the probability of winter interaction is very real—does Exxon intend to be there with a cleanup force in the spring?

Mr. **Stevens**. We will be there through the winter in terms of continuing the on-going scientific investigations that are underway and have been for several months and also, with respect to field monitoring the treated shoreline and monitoring whether or not there is any continuing problem, and as I say in my written submission we do intend to return in the spring to reinspect the area and determine what, if any, work needs to be done.

Senator **Kerry**. Well, if work needs to be done—if it is the judgment of Admiral Yost and others that work needs to be done, will Exxon undertake that work?

Mr. **Stevens**. Well, certainly we will be consulting with the Coast Guard next spring.

Senator **Kerry**. I do not hear you making a commitment that you are going to continue on beyond this winter, then?

Mr. **Stevens**. We are going to have to shut down, as I said earlier, this winter.

Senator **Kerry**. I understand. But are you willing to start up again if cleanup is necessary?

Mr. **Stevens**. We are willing to come back in the spring and determine the job that needs to be done and we will do that in consultation with the Coast Guard.

Senator **Kerry**. If there is a job that needs to be done, will Exxon do it?

Mr. **Stevens**. Well, here again we are into the cleanup and treatment and definition of terms. We will return and at that point a decision will be made jointly with the Federal organization as to what work needs to be done.

Senator **Kerry**. Well, supposing this Committee visits, which we are thinking of doing in perhaps October and perhaps next spring, depending upon which makes more sense, and this Committee's judgment is that there is actual—not treatment but cleanup—that could be done, will Exxon undertake the cleanup?

Mr. **Stevens**. Senator, I think your question demonstrates the difficulty I have with sitting here in late July and in making some sort of a commitment about what will, or the conditions under which, or who will decide, and so forth with respect to next spring. All I would say, Senator, is judge our sense of responsibility next spring by our actions to date this year.

Senator KERRY. Well, I understand that. What troubles me here—and we are back to credibility—I remember very, very clearly I was impressed by the advertisement that appeared in the "New York Times" and "Washington Post", full page, "Exxon promises." Do you remember that? I wish I had the text here.

Mr. STEVENS. I remember it.

Senator KERRY. It seems to me that that, coupled with you sitting here making very firm pronouncements about Exxon's responsibility for this problem, and Exxon is going to be there until the problem has gone away. Now, that is the promise on the table. And I very, very distinctly hear you walking away from that promise.

Mr. STEVENS. Then you misinterpret my comment. I see my response to your question as being consistent with what we have said heretofore.

Senator KERRY. Well, you are not willing to make the same kind of bold headline statement that if a cleanup is necessary, Exxon will do it. You are simply saying we will see what the judgment is.

Mr. STEVENS. Well, it is necessary in whose view, and so forth and so on. Obviously, we are not returning next spring with an academic exercise. We are coming back, again in conjunction with the Coast Guard, to reinspect the area, and we will determine what, if anything, needs to be done.

Senator KERRY. Well, let me ask you, and let me see if I can be more specific about it. If you have a beach that looks like the one in this picture, would Exxon resume treatment and cleanup?

Mr. STEVENS. Of that beach? Unquestionably. But again, our intention and commitment is that there will be no beach that looks like that by September 15th.

Senator STEVENS. Now I understand what you are saying. You are saying that contrary to the position that Admiral Yost expressed and I have expressed that the commitment you made, in our judgment, is not attainable in the time frame that is left, you are saying that you still maintain it is attainable, and you believe the job will be done by September 15th or 17th?

Mr. STEVENS. Again, if we can get off of some of these dead centers and get on with the job. I am very hopeful. I would be naive and misleading you if I were to give guarantees, but I can say what our intention is.

Senator STEVENS. All right. What the chairman and I are both thinking at the same time is let us assume that Admiral Yost's statement is right, that I am right, that we do not think that can be done within that length of time, particularly outside the sound. And you come back next spring, and the judgment of the Shoreline Committee is that there is more work to be done. And as I told the chairman parenthetically, by that time the law will be if you do not do it, we will do it and bill you.

Is it Exxon's intention to do it if the Shoreline Committee indicates it should be done?

Mr. STEVENS. Well, I will not speak to the Shoreline Committee. That gets into the decision-making process. But as I have said, we will, in consultation with the Federal Government and with the Coast Guard, make that decision next spring, yes.

Senator STEVENS. Mr. Stevens, you keep saying you will make the judgment as to whether there is work to be done, but is it your present intention if there is work to be done, that you agree you will continue and reform the group to do it next year?

Mr. STEVENS. Senator, one of the problems I have is that we are being criticized in some scientific camps currently for some of the work that is going on in terms of the intensity of the beach cleanup, in terms of it doing more harm than good, and therefore, if—and I want to be sure that the chairman and I do not have another semantic or definitional difference here—if somebody is saying cleanup needs to be done, and that means no visible presence at all of oil, then I get greatly concerned about the environmental impact. So it comes down again to the bases on which that decision should be made representing the balance of interests.

Senator STEVENS. I have to share the chairman's frustration, because walking on the beach at Barren Island is like walking on a waterbed, as I told you yesterday. If that is not out of there by this fall, it will still be there next spring, and someone has got to find a way to get it out of there.

Mr. STEVENS. And, Senator, there is no question in my mind the way you described that beach that if that is the way it is next spring, we will be there.

Senator STEVENS. To finish the job?

Mr. STEVENS. Yes, sir.

Senator STEVENS. All right.

Senator KERRY. Mr. Stevens, I thank you, and I appreciate both of your patience. This has been a long hearing and somewhat delayed occasionally.

Senator STEVENS. Can I ask one question?

Mr. Stevens, you made a comment yesterday to me about the work ethic of the people on those beaches. I see a lot of criticism of our people who are working on the beaches, and even "Saturday Night Live" panned them.

Would you mind telling the chairman and the committee about the work ethic of these people who are out there 24 hours a day?

Mr. STEVENS. One of the things that I have probably been the most encouraged and inspired by really is the work of all the people who are involved directly on the shoreline, and that includes the Coast Guard. And I wish the Admiral were here, and I passed this comment on to Senator Stevens yesterday. The Coast Guard has been an excellent taskmaster, and they have been a taskmaster, I should add.

But also, the Alaskan work force has come into some very difficult conditions. I would not quite go as far as describing it as hell, but some very difficult conditions. And those people get up in the morning wanting to go out and do the job, and I think there's a sense of identification of what they are accomplishing, and they put in a full day's work regardless of however many hours it is, usually 12 hours from shift to shift.

And so one of the things that has helped us achieve this sort of record, if you will, is the activities of the individual workers, again the bulk of whom are Alaskans.

Senator **Stevens**. Thank you. I am most impressed with their activities, too.

Senator **Kerry**. Well, let me just make as a final comment—and I do not want to sound sanctimonious—but I hope that you folks can really break through whatever the barriers, and some frustrations may be to get the decision-making and the communication process going in a way that we can maximize the next period of time we have.

And I want to thank both of you very, very much for taking the time.

Let me just say that the committee will review this yet again, probably in October, and I trust you will be available to answer questions, then. And we will consider a journey, depending upon when Senator Stevens and others think it might be most advisable to see where we really are at the end of this.

Thank you very much.

Mr. **Stevens**. Mr. Chairman, thank you for the forum, because I think this hearing and some of the visits and association with it have been very helpful in making real progress happen.

Senator **Kerry**. We certainly hope so. And let me just say to you, Mr. Stevens, and Mr. Kelso, or any of the parties, I am available to work with Senator Stevens and you in a way that can try to expedite any decisions that need to be made. And I hope you will feel free, if you need an arbiter that is neutral, we are here, and if we can be helpful, we want to do that; because the last thing we want to hear is that some decision did not get made or could not get made because somehow people were not at the same table.

Mr. **Stevens**. I think Senator Stevens can accomplish that for us. Thank you very much.

[Whereupon, at 1:55 p.m., the committee was adjourned.]

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM NEW JERSEY

Mr. Chairman, thank you for the opportunity to present these comments to the Committee today.

The massive oil spill in Prince William Sound raised a number of questions—about the adequacy of contingency plans, the role of the Federal government in preventing and responding to spills, and the existing technology to clean up spills when they do happen. I will soon be introducing legislation to amend the Clean Water Act to require the review, approval, and revision of local spill contingency plans, to assure that we're ready if and when spills occur again.

But today, I ask the Committee to consider another area of concern: the fitness for duty of those placed in safety-sensitive positions on ships like oil tankers.

On April 4, I introduced S. 691, which was referred to this Committee, and would provide the Coast Guard with access to the National Driver Register in evaluating applicants for licenses to pilot commercial vessels such as oil tankers.

I am pleased to note that, in testimony before the Transportation Appropriations Subcommittee, the National Transportation Safety Board and the Coast Guard have endorsed this legislation.

The need for this bill was made all too clear by the devastating oil spill in Valdez, Alaska. Soon after it occurred, we learned that the tanker pilot had a history of drunk driving. In fact, his driver's license had been suspended twice previously, and is currently suspended.

Mr. Chairman, this man couldn't legally drive down to the local 7-11 to get milk and bread. But he was put at the controls of a 1,000-foot tanker loaded with millions of gallons of crude oil. That just doesn't make sense.

The Valdez spill was a preventable accident. The knowledge of the captain's history of drunk driving might have helped its prevention. Unfortunately, that information was not available to the Coast Guard, which has the responsibility for licensing those in control of commercial vessels.

Under current law, the Coast Guard does not have access to the National Driver Register, or NDR. As this Committee knows, the NDR is a data bank for the collection and distribution of records of serious motor vehicle operator violations. It includes records on drunk driving convictions and driver's license suspensions and revocations resulting from such incidents.

Without access to the NDR, the Coast Guard must rely on license applicants' own admissions of major infractions. That's just not good enough. Previously, it was revealed that thousands of applicants for aviation pilot licenses did not reveal information on drunk driving histories when asked. I introduced legislation, now law, to allow the Federal Aviation Administration access to the National Driver Register in reviewing license applications. Similar authority has since been given to the Federal Railroad Administration with regard to railroad engineers.

S. 691, would provide the Coast Guard with access to the NDR in considering the licensing of merchant seamen in direction and control of vessels. This legislation is important to improving marine safety. If a person has a history of alcohol abuse and drunk driving, we should know that before he or she is allowed to control a tanker holding millions of gallons of oil.

Second, the bill would direct the Coast Guard to promulgate rules to require the disclosure of information in the NDR by applicants. Currently, Coast Guard regulations provide for the denial of a license "when information has been brought to the attention of the OCMI [Officer in Charge, Marine Inspection] which indicates that the applicant's habits of life and character are such as to warrant the belief that the applicant cannot be entrusted with the responsibilities of the license or certificate of registry for which application is made." (46 C.F.R. Part 10.205 (f)(2).)

However, without access to the information in the NDR, this authority is incomplete. This bill would rectify that.

A few days after the spill, I toured the spill site, and was briefed on the events surrounding the spill. I learned what happened, what was supposed to happen, and what didn't happen.

There are a number of issues that must be reviewed in the Congress, by the Administration, and by the private sector. This bill is a small part of the effort to correct our mistakes, and to see that they're not repeated.

As we're seeing in Alaska, the consequences of a major oil spill can be disastrous. What I saw in Valdez was a beautiful, pristine environment, defiled by a terrible spill. It may be years before the ecosystem recovers. And the damage doesn't stop there. Local and regional economies have been devastated. The effects of this spill will be felt for many years to come; by the environment, by wildlife, and by those whose livelihoods depend on the waters of Prince William Sound.

Mr. Chairman, we've got to do whatever we can to prevent a repeat of this disaster. I know this Committee will be working within its jurisdiction to help reach that goal.

Among the important maritime issues the Committee will review, I hope it will give favorable consideration to S. 691. By acting on this bill quickly, we can take a step forward in improving safety on the seas.

Mr. Chairman, earlier I noted that the NTSB supported my legislation. In discussion with the NTSB, I learned that that agency, which plays such a vital role in finding the causes of transportation accidents and helping prevent their recurrence, does not have direct access to the NDR. I would ask the Committee, as it considers my bill and the use of the NDR, to also extend access to the National Transportation Safety Board. I would be happy to work with the Committee on this.

Thank you.

STATEMENT OF DR. CARL H. OPPENHEIMER

Mr. Chairman and members of the Committee, I am Dr. Carl Henry Oppenheimer. I am a Professor of Marine Science at the University of Texas at Austin and contemporaneously the principal scientific advisor to Alpha Environmental, Inc., a private firm with headquarters in Austin, Texas. I received my Ph.D. in Marine Microbiology from the Scripps Institute of Oceanography. From 1964 to 1971, I was at Florida State University where I established their Department of Oceanography. In 1971, I moved to the University of Texas Marine Science Institute where I served as Director from 1971 to 1973. My published articles, papers, and books are included in my curriculum vitae, a copy of which has been provided to the Committee staff. The views which I express are my own, and while they may be shared by my colleagues at Alpha Environmental, they should not be interpreted as representing the views of the administration or faculty of the University of Texas.

I am pleased to be here today to discuss with you the potential of harnessing one of nature's own cleansing techniques, microbial degradation, to counteract unanticipated oil spills in the ocean or in fresh water. Recent events have graphically demonstrated once more how greatly the United States needs an improved response for the all too human costly accidents that introduce huge volumes of unwanted oil into especially sensitive areas of the environment such as Prince William Sound, Alaska.

While the mind may rebel at the thought, future accidents are inevitable because man produces, refines and transports more than 5 billion gallons of hydrocarbons each day over our lands and waters.

For more than forty years, I have been a teacher and a scientist. In a somewhat old fashioned way, I consider myself a "pragmatic naturalist" inclined to balancing the needs of the untidy world of work and industry in which we all live with the frequently idealized world of a pristine environment unspoiled by man. I recall a comment once made by Professor Athelstan Spilhaus, a well known marine scientist who worked with Senator Pell to establish the Sea Grant Program, who said that we must maintain a proper "Ecolibrium" which is the balance between desired ecology and necessary economy.

Throughout my career, I have pursued answers to the broad question of the interaction of naturally occurring microorganisms on hydrocarbons not only in the university laboratory, but also in that original, larger, and more demanding laboratory: Nature herself.

I am now 67 years of age. During my long career I have spent a large amount of public funds in my research in the laboratory and in the field and have published extensively on marine ecology. Now as a senior scientist, I feel a compelling obligation to translate my years of experience into a practical application to solve some of our current problems in the environment. My goal is to apply the use of naturally occurring microorganisms in the removal or recycling of pollutants. My colleagues and I at Alpha Environmental like to describe this part of our work as "environmental microbiology".

II.

When man introduces large amounts of oil into the environment, it is called pollution. When nature introduces large amounts of oil in sediments, it is called energy resources.

The word "pollution" is a term designated by man, wherein the introduction of a substance that may be in competition with environmental balance stresses our environment. Oil or hydrocarbons have been known to momentarily unbalance our environment. The massive spillage of ruptured oil tankers during World War II; the Torrey Canyon spill off the coast of France; the Santa Barbara blow-out; ruptured oil storage tanks near Pittsburgh, Pennsylvania; the IXTOC I blow-out in the Gulf of Mexico; and the recent Exxon Valdez spill in Alaskan waters are well known examples of massive hydrocarbon pollution which have elicited varying degrees of governmental and industry response.

Certainly, oil pollution of the environment is nothing new. Hydrocarbons have been a part of living protoplasm and oil seeps in our environment since life on earth began. The earliest evidence of "Rock Oil" now known as crude oil was from natural seeps in LaBrea near Los Angeles and on the island of Trinidad; at Coal Oil Point off California and at several places in the Mediterranean Sea. Ancients used these rock oils for lamps, to preserve cordage and sails, to waterproof vessels and for medicinal purposes. Tallow was used for lubrication. Evidence of the importance of natural oil has been documented throughout the technical and specialized literature.

The late Professor Claude E. ZoBell, my PhD Chairman at the Scripps Institute of Oceanography, University of California at La Jolla, reviewed data on microbial oxidation of petroleum and products in 1964. His conclusions extracted below from this early publication still holds true today.

"Nearly all hydrocarbons, including petroleum are oxidized by certain bacteria which are universally distributed in shallow marine waters."

He called these populations polyphagous species which may oxidize a wide range of petroleum fractions. "It is estimated that the bacterial oxidation of mineral oils may attain rates as high as 36 to 360 grams per cubic meter per year."

My own research started in 1949 with financial support by American Petroleum Project 43A, "The Origin of Hydrocarbons". My doctoral dissertation was on the effects of high pressure on bacteria. Since then I have continued research on the origin and fate of oil in the environment. I was a member of the President's Oil Spill Response Panel after the Santa Barbara Incident in 1969. For two years, this panel of experts reviewed current and proposed oil spill response techniques.

From this first hand experience and others like it over the years, I have a strong sense of reliving the past when I study the response to the Exxon Valdez spill. It seems that current oil spill response techniques have not progressed much over the past few decades. An analysis of the annual meetings of the Oil Spill Conference Proceedings sponsored by the API, Coast Guard and EPA, 1969 to present, seem to support my view. Why should this be so? There are surely many reasons for this apparent stagnation in our national response to oil spills, as well as other pollution challenges facing the United States.

The national weakness for "instant gratification" and quick response, together with a pervasive growth of "risk avoidance" and a "fear of failure" all play a role in the imbalance between practical and field tested responses when measured against the time and fortunes which have been lavished on research grants, in house research facilities and contractors. We talk a great deal about "bioremediation" for pollution emergencies and for Superfund sites, but examples of applications regardless of success are relatively few. Why is this?

I applaud the efforts of this Committee to do what many in the scientific and governmental communities are unprepared to do: take specific steps toward the introduction of microbial techniques as part of the national response to sound and affordable management of our natural patrimony. After all, microorganisms are responsible for the decomposition of the hydrocarbons that have been produced since life began.

When nature produced organic materials such as hydrocarbons, it also produced a mechanism for recycling protoplasm. Life would become extinct if recycling or the mineralization of the protoplasm of plants and animals did not take place. All protoplasm is decomposable. The byproducts of all metabolism are a part of recycling.

Each organism that dies or is killed is immediately subject to microbial degradation, and the inorganic materials within the living organism are released so that life can continue. In the process of metabolism, byproducts of decomposition are also introduced into the environment.

In retrospect, I feel that much of life has been a preparation for applying a wide variety of laboratory and field experiences to the development of a practical, efficient, and economic methodology for pullution control. Bacteria, in their role of mineralization, decompose the approximately 6 million organic molecules and substances produced in living organisms. These remarkable microorganisms, if properly prepared and applied, can provide a flexible, albeit only a partial solution to modern pollution problems.

Some of these many organic materials are naturally produced hydrocarbons. Nature has provided a natural method to mineralize not only the organic materials but the hydrocarbons as well. Long before I began to advise Alpha Environmental, my primary emphasis was directed at increasing the activity of microorganisms through the application of a simple yet innovative technology.

I needed to (1) select hydrophobic communities of bacteria that would stay within the oil film and not be diluted, (2) develop natural microorganisms that are free from possible environmental and human toxic effects, (3) identify and reproduce microorganisms that are active in oil slicks in the presence of natural infra-red radiation in cold, i.e. northern environments, (4) culture microorganisms which are active in both fresh and salt waters, (5) and enhance or stimulate both growth and concentration to provide a highly concentrated powder of microorganisms with a minimum of 6 months shelf life that might be rapidly transported, rehydrated, or applied directly to meet polluted areas.

This has been an ambitious undertaking and I am proud to report that all the above achievements have been realized. As I proposed at the emergency EPA meeting on bioremedial application three weeks ago in Washington D.C., Alpha Environmental is today in a position to deliver enough bacteria to seed one hundred miles of coastline in Alaska at a concentration of 100 thousand bacteria per square centimeter.

I must emphasize here that microbial biodegradation only occurs rapidly in thin layers of oil less than a 16th of an inch. This is due to the fact that oil degrading microbial activity is most active at the oil-water interface. The ratio of exposed surface area to water becomes an important physical effect that greatly influences the degradation rate. Mechanical methods will likely continue to be important in removing massive oil layers, but selected and prior tested bacteria can be used safely and efficiently for removing the remainder which, though lesser in absolute volume, is nonetheless considered a polluant.

The mechanism of microbial degradation has been well known for many years more or less as Dr. Davis described in his 1946 book on petroleum microbiology. The pathways of degradation have not changed materially. The hydrocarbons are carboxylated to fatty acids which in turn are an energy substance readily utilized by the food chain. In my past research in several marine environments, oils degraded by our bacteria were converted into a form-like material commonly called a mousse, which was eaten by filter or detritus feeding fish like the mullet. In these controlled artificial spills, no evidence of toxicity was noted during the several days after the oil disappeared, a time period of approximately 3 to 4 hours. For field experiments we used a fairly large inoculum so that results could be seen within the normal tolerance time of busy administrators.

When oil is added to a clean water surface it spreads rapidly. In natural waters organic surfactants are normally present on the water surface from the byproducts of the activities of living marine organisms. These organic compounds, depending on their amount, naturally emulsify surface oil thus producing an emulsion and increasing the oil water surface and a resultant increase in bacterial degradation. Oxygen is normally not a limiting factor in surface activities.

As the bacteria attack the oil, they produce more fatty acids or detergents which enhance the emulsification process. This in turn increases the rate of biological degradation. The combination of processes produces the mousse. Normally the population of hydrocarbon oxidizing bacteria in natural waters is very low.

My approach is to provide very large numbers of bacteria at the time of oil pollution to supplement and to stimulate the degradation process. The degradation rate is directly related to the microbial population. If one can increase the microbial population by several orders of magnitude, then degradation rate follows, and the ecological recovery time should be shortened.

Pollution has been described as the introduction of materials into the environment at a rate exceeding the response for environmental balance. The literature supports the fact that bacteria decompose oil on the surface. It is axiomatic that if one can increase bacterial numbers, degradation will increase. The field application of powdered bacteria at high concentration values is one method to enhance degradation. This process can be further enhanced by using methods to keep the bacteria at the oil water interface and to provide additional nutrients of inorganic nitrogen and phosphorus that may be limiting. Hydrocarbon bacteria normally require inorangic nitrogen and phosphorus. If abnormal levels of organic nitrogen and phosphorus are present, the bacteria will preferentially utilize the organic materials first sparing the hydrocarbons and delaying their decomposition. When the task is cleaning up the effects of an oil spill, one ought to get rid of the oil before artificially feeding in situ bacteria with nutrients.

I have evaluated all the relevant environmental parameters associated with the natural decomposition of hydrocarbons. The literature on the distribution of oil in natural waters and the molecular composition of residual oils establishes the fact that the degradation of the oil does not result in high concentration of specific compounds.

Nature, in its balance, has provided a mechanism associated with diverse microbial populations to decompose all oil materials both simple and complex, straight chain or ring structure. If this did not take place, then our environment would be continually polluted with the residues produced by natural organisms, produced hydrocarbons, and geological seeps of ancient hydrocarbons.

Why can't we accept the fact, supported by research costing billions of taxpayer dollars, that microbial concentrates and associated oil compatible materials may enhance the natural degradation rate when applied expeditiously after a spill.

If studying oil degradation in most laboratories is not going to produce more answers than we have seen to date, then we must turn to my laboratory of choice: the natural laboratory.

Microorganisms in powder form can be added directly to surface films or hydrated and sprayed on shorelines. It does not take specialized equipment, as crop dusting and fertilizer application techniques are well known. If the microorganisms in powder form could be added at the time of the accident they will spread with the oil. The great advantage of using microorganisms that degrade oil and stay within the oil is that they increase in numbers as they degrade the pollutant. The bacterial numbers increase as the oil spreads over the water, continuing its degrading activity on the oil if it moves to shore.

When the pollutant food source is gone, the oil degrading bacteria die off. This is a process of efficiency that makes the application technique more attractive to a public already sensitized to the release of genetically manipulated bacteria.

We have arrived at that point in our learning about environmental response to require a modicum of practical applications along with continuing research. It could have been obvious to anyone undertaking environmental research that application was a prime objective rather than prelude to more research. The public might find it hard to understand that much of the expensive and lengthy research which they have underwritten has yielded a vast reservoir of paper with precious few new tools manage the growing dangers of environmental pollution. One of the things which attracted me to Alpha Environmental is a combination of sophistication and determination to bring new techniques to the marketplace which move the day to day work of environmental management forward at a cost which society can afford.

The use of microorganisms to enhance the removal of oil pollution will not produce adverse effects, has been shown to be effective and is within a practical cost of application. It is my hope that the work of this Committee will move us closer to that goal. In one sense, it would be an extraordinary capstone to my own life's work and the finest gift I could leave to tomorrow's naturalists.

SOUTHWEST ALASKA PILOT ASSOCIATION,
Homer, AK, April 7, 1989.

To: Senator TED STEVENS.
From: Capt. Ed Murphy, President, Southwest Alaska Pilots Association.
Re Recommendations to Senator Ted Stevens for increased safety of tanker shipping in Prince William Sound, Alaska.

Coast Guard VTS in Prince William Sound should re-equip with more powerful, state of the art, radar equipment which will track vessels and sound an alarm should they leave designated navigation routes (traffic lanes).

2. Install a VTS radar on Naked Island in Prince William Sound. This would provide full radar coverage of the traffic lanes and tanker anchorage.

3. Install a lighthouse structure on Bligh Reef equipment with a powerful, long range navigation light.

4. Prior to embarking and after disembarking the state pilot, tankers transiting Prince William Sound should have a deck officer on the navigation bridge in addition to the master and mate on watch, to assist in navigation, communications and lookout.

5. Require tankers transiting Prince William Sound to fix their position on the nautical chart of the area at least once every six (6) minutes and retain the chart with these positions for inspection by the U.S.C.G.

6. Require all tankers entering and departing Port Valdez to embark and disembark a state pilot in the vicinity of Bligh Reef, approximately eight (8) miles south of the present pilot station.

STATEMENT OF

WILLIAM E. EVANS
UNDER SECRETARY FOR OCEANS AND ATMOSPHERE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

BEFORE THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
AND THE NATIONAL OCEAN POLICY STUDY
UNITED STATES SENATE

MAY 10, 1989

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to discuss the responsibilities of the National Oceanic and Atmospheric Administration (NOAA) under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and our implementation of these responsibilities during the Exxon Valdez oil spill.

The NCP and the national response system it established were initiated in the late 1960's as the result of concern in the United States about the extensive environmental and economic damage from oil spilled off the coast of England when the tanker Torrey Canyon grounded in 1967. The focal point of the national response system then, and now, is the Federal On-Scene Coordinator (OSC), who is in charge of all Federal response activities. The OSC for spills in coastal and marine areas is usually a pre-designated officer from the U.S. Coast Guard, while OSC's for inland spills are furnished by the U.S. Environmental

Protection Agency. In cases where the party responsible for the spill is both able and willing to undertake the cleanup, the OSC monitors the cleanup and stands ready to take control of the response, that is, to "federalize" the spill, if the efforts of the spiller are inadequate. In the Exxon Valdez case, the spill was not "federalized" because the OSC determined Exxon was taking effective action to eliminate the threat to the environment from the oil remaining in the tanker and proper action to remove the spilled oil. The OSC initiates a Federal response in cases where the spiller is unknown or is unable or unwilling to undertake the cleanup.

OSC's are supported by Regional Response Teams (RRT's) consisting of 14 Federal agencies and State representatives in each of the ten Federal regions plus one each in the Caribbean, Pacific Ocean and Alaska. During a spill, the RRT's serve as an advisory body to the OSC and a conduit to the specialized response capabilities of their member agencies. When not involved in spills, RRT's develop and strengthen regional contingency plans, evaluate regional preparedness and coordinate training and exercises for response personnel.

RRT activities are supported at the national level by the National Response Team (NRT), a planning and coordinating body consisting of the same 14 Federal agencies that stands ready to provide assistance during a large spill but which does not itself respond directly. The NRT coordinates the activities of its member agencies to ensure a unified Federal approach on policy questions about national response capabilities and preparedness for oil and hazardous substance incidents. The NRT, at the request of EPA Administrator Reilly and Transportation Secretary Skinner, has prepared a preliminary report on the response to the Exxon Valdez spill for the President.

NOAA represents the Department of Commerce on the NRT and the thirteen RRT's. It has, for example, played a major role in the Alaska RRT's preplanning for the use of dispersants and the development of guidelines for wildlife protection. Dispersant use guidelines for Prince William Sound were approved by the RRT two weeks before the Exxon Valdez spill, along with guidelines for in-situ burning of spilled oil.

Federal OSC's have a number of "special forces" they can draw on during a spill response. One of these is provided by NOAA through its Hazardous Materials Response Branch, which maintains a team of nine highly-trained Scientific Support Coordinators (SSC's) located in Coast Guard Districts around the country to facilitate rapid response. The SSC's are backed by an interdisciplinary group of chemists, ecologists, and oceanographers that uses a nationwide communications network to provide timely expert advice that includes: a) microcomputer trajectory models that show in graphic form the predicted movements of pollutants in water or air; b) identification of sensitive environments and recommended protective measures; and c) automated data management to speed the flow of accurate and timely information to all responders. SSC's also coordinate the inputs of scientific information to the OSC from all sources, including universities and other private entities, and assist the OSC by briefing affected communities on scientific issues that arise during spill response. When not working at a spill, SSCs provide scientific assistance to RRT's and OSC's in contingency planning and response training.

NOAA's responsibilities under the NCP to support response actions are described in more detail in our organizational response plan. I will be glad to make copies of this plan available to the Committee if you would like them.

The NCP also designates certain Federal officials, among them the Secretary of Commerce, to act on behalf of the public as trustees for natural resources that may be injured or destroyed by discharges of oil or releases of hazardous substances. These officials, acting under authorities provided by the Clean Water Act (for oil discharges) or the Comprehensive Environmental Response, Compensation and Liability Act (for hazardous substances releases), can claim damages from spillers for the environmental harm done by the spill. Monies recovered through such claims are to be used to restore, replace, or acquire the equivalent of the injured natural resources. The Secretary has directed NOAA to carry out his responsibilities as a Federal trustee for living and non-living natural resources in coastal and marine areas.

When the Exxon Valdez grounded on Bligh Reef in the early morning hours of March 24, NOAA was at the scene quickly. Its SSC in Anchorage was called the same morning and reached Valdez within hours of being notified. By the end of that day, NOAA's Hazardous Materials Response Branch had a team of six people and a NOAA helicopter available in Valdez to assist the OSC. Predictions of the movement of the spilled oil, together with weather and tidal forecasts, were provided within the first 24 hours of the accident. Routine overflights to map the extent of contamination were started March 26. Daily reports and maps on the movement of the oil and extent of contamination are being provided to the Federal OSC and other responders to facilitate coordination of the cleanup. Maps of environmentally sensitive areas within Prince William Sound, prepared by NOAA in 1983, were given to the OSC and Exxon's on-scene personnel to help them assign priorities for protective measures. The Hazardous Materials Response Branch now has more than 20 of its staff working in Valdez, Seward, Homer, Kodiak, and Anchorage coordinating scientific response to the spill and briefing affected local communities.

NOAA's representatives to the Alaska RRT have also provided technical information to the OSC on dispersant use, shoreline clean-up, and concentrations of petroleum hydrocarbons in the water column. NOAA acquired and deployed portable weather stations and data gathering buoys for improved tracking of the spilled oil in Prince William Sound and the Gulf of Alaska.

To fulfill its trustee responsibilities, scientists of NOAA's National Marine Fisheries Service moved quickly into the field to gather baseline information on water quality and presence of marine mammals and fisheries resources before the oil reached areas of particular concern. (In this connection, it should be noted that the State of Alaska has closed the herring, sablefish, and shrimp fisheries of Prince William Sound.) This work, financed by the diversion of NOAA program resources, was carried out cooperatively with field staff from the U.S. Departments of the Interior and Agriculture, and the Alaska Department of Fish and Game, whose trust resources have also been affected. The trustees have moved quickly to form a coordinating council in Alaska and supportive management teams to oversee ongoing damages assessment studies and finalize the comprehensive damage assessment plan.

Along these same lines, NOAA's Chief Scientist is the presiding officer of the National Ocean Pollution Policy Board. Under the auspices of this Board an interagency planning group has already prepared a draft extended Studies Program Plan, as a strategy for conducting research on the Exxon Valdez spill. This draft will be reviewed at a special meeting of the Board scheduled for May 15, 1989.

Thank you, Mr. Chairman. I will be glad to respond to any questions that you or other members of the Committee may have.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Washington, D.C. 20230

OFFICE OF LEGISLATIVE AFFAIRS

August 18, 1989

Honorable Ernest F. Hollings
Chairman, Committee on Commerce,
Science, and Transportation
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Enclosed are answers to follow-up questions for the record of the May 10, 1989, hearing on the EXXON VALDEZ oil spill.

Should you, or any of your colleagues, have any further questions, please contact me.

Sincerely,

Lori Gribbin
Director

Enclosure

cc: Senator Danforth

Answers to Questions from Senator Hollings for the Record of the May 10, 1989 Hearing Before the Senate Committee on Commerce, Science, and Transportation on the EXXON VALDEZ Oil Spill

1. **I understand that, in the ten weeks that have passed since the spill occurred, the oil has now spread out of Prince William Sound, passed Cook Inlet, into the Shelikof Straits, around Kodiak Island and well down the Alaska Peninsula.**

   What is NOAA doing to be out in front of the oil to mitigate damage and protect animals and their habitats?

   NOAA predicted the movement of the oil from the EXXON VALDEZ and tracked it from the air while the oil was visible as it moved down Shelikof Straits and off the coast of the Alaska Peninsula. It identified natural resources at risk along the path of the oil and worked with the State of Alaska to identify environmentally sensitive areas requiring priority protection. NOAA is performing similar functions during the shoreline cleanup now underway, identifying locations such as seal pupping areas and salmon spawning streams that need to be cleaned up first, coordinating the efforts of the interagency cleanup committees that are approving the cleanup techniques to be used for different types of shoreline and inspecting cleaned areas to determine if EXXON's cleanup has been adequate.

2. **I understand that NOAA shares some of the responsibility for estimating resource damage. This strikes me as a fairly difficult and complicated task.**

   - **What has been and is being done to assess damages?**
   - **Did the responsible agencies including yours respond quickly and initiate quality assessment studies?**
   - **Why was there no comprehensive and coordinated plan regarding even the most basic research questions and damage assessment needs?**

   NOAA, acting on behalf of the Secretary of Commerce, is one of four natural resource trustees responsible for: a) assessing injury to the resources of Alaska's Prince William Sound and other coastal areas affected by oil from the EXXON VALDEZ, b) filing a claim against Exxon for those damages, and c) using monies recovered through this claim to restore the injured resources. The other trustees are the Secretaries of Agriculture and the Interior, and the Alaska Commissioner of Fish and Game.

The Exxon Shipping Company has provided an initial $15 million to the four trustees to begin damage assessment work. Additional monies will be sought from Exxon to fund the entire damage assessment at a cost of $37 million. The trustees have formed a Trustee Council in Alaska to coordinate the development of a joint damage assessment plan which will be released for public review on August 18. In the meantime, sampling and other scientific work needed for injury determinations under the damage assessment plan are already underway. NOAA had scientists in Prince William Sound the day after the March 24 spill gathering data on marine mammal populations that could be affected by the oil. All four trustees worked together to re-visit sampling sites established under earlier monitoring programs before the oil reached them, thereby gaining baseline data against which to measure both injury to, and recovery of, the natural resources in the Sound that have been affected by the spill.

3. **What is your best estimate of the economic damage done to the area's fisheries by this spill?**

- **At this time, do you have confidence in your ability to make such an assessment?**
- **What is being done by your agency to research this questions?**

There is no evidence of significant fish kills from the spill. The large fish hatcheries which had been holding over 650 million pink salmon fry at the time of the accident were successfully protected by booms and were able to release their fry into oil-free areas after the slick had passed. Important herring roe and salmon fisheries in Prince William Sound, Lower Cook Inlet and off Kodiak were, and continue to be, closed or delayed whenever oil is found in the area to guard against possible tainting of the product. Exxon has indicated that it will compensate fishermen for their losses from these closures.

It will take from three to seven years (the life cycles of the affected species) to know if there were any adverse long-term effects on Pacific herring or the five salmon species that use Prince William Sound and other affected coastal areas for spawning or as nurseries. It is, therefore, too early to estimate the long-term harm done to these fisheries. Data are currently being gathered on herring larvae collected from the Sound to determine if the oil has caused abnormalities that will affect survival. Similar studies will be carried out on the eggs and fry of salmon. The numbers of returning adult herring and salmon will also be monitored to estimate possible reductions in year classes. By working at both ends of the life cycle, we believe we will be able to quantify any harm done to the major fisheries by the spill.

4. Oil spills of this magnitude are relatively infrequent events and little is known about the comprehensive and long-term effects of such events.

- **What is your agency doing to take advantage of the rare opportunity provided by this spill to document its effects on the marine ecosystem?**
- **Were you ready to take advantage of this opportunity?**
- **Are your agency's fiscal constraints limiting your ability to respond adequately to the opportunity?**

The portion of the damage assessment plan that is to be implemented by NOAA includes studies on the short- and long-term effects of the oil on a wide range of intertidal and marine organisms and their habitats. The data collected in these studies will be invaluable both in assessing the damage relative to this oil spill and in developing a model for the assessment of damage in future spills.

No one could be said to be adequately ready for a spill the size of that in Prince William Sound. However, NOAA did possess vital baseline data that enabled it to quickly determine the necessary scope of the studies that were put into the field on short notice. The major fiscal constraint has been that Exxon has funded only an initial $15 million of these costs, and therefore the remaining first year damage assessment cost of $22 million must be obtained from Exxon through negotiations and/or litigation to produce the balance of the funds.

Answers to Questions from Senator Danforth for the Record of the May 10, 1989 Hearing Before the Senate Committee on Commerce, Science, and Transportation on the EXXON VALDEZ Oil Spill

1. **How much money has your agency spent on the spill so far that would otherwise have been spent for other programs in your budget? How much of that money has been reimbursed by Exxon? What are you going to do to fund continued damages assessment and other efforts relating to the spill and the other programs for which you are responsible?**

To date, NOAA has spent $2.1 million to provide scientific support to the U.S. Coast Guard for response to the EXXON VALDEZ oil spill. Approximately one-half of that amount was advanced from other NOAA programs. We expect to be reimbursed by Exxon through the 311K fund for all the response costs, at which time the program levels will be restored.

Exxon has agreed to fund $15 million for damage assessment; however, the total cost projected for such assessment for the first year (March 1989 - March 1990) is $37 million. NOAA's share of the initial $15 million is expected to be $3.6 million which will cover some of the costs expended by NOAA which were not provided for in the FY 1989 budget. The remaining funds needed to complete the damage assessment must be obtained from Exxon through negotiations and litigation.

2. **Did representatives of NOAA comment on the contingency plan for Prince William Sound? If so, what were your comments, to whom were they submitted, and what was the response? Do you feel that you need a greater role and more authority in the review process?**

NOAA has never reviewed or commented on the Prince William Sound contingency plan developed by Alyeska. It does, however, assist Coast Guard Captains of the Port in developing their contingency plans by providing analyses of the historic pattern of accidents in the port, the likely environmental impacts of accidents based on past data, and recommends strategies for protecting natural resources from future accidents.

COMMENTS OF THE NEW ORLEANS STEAMSHIP ASSOCIATION FOR THE RECORD OF THE HEARING BY THE MERCHANT MARINE SUBCOMMITTEE WEDNESDAY, MAY 10, 1989

PUGET SOUND TANKER SAFETY ACT OF 1989, S839
MERCHANT MARINE AND FISHERIES SUBCOMMITTEE
SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TECHNOLOGY

HEARING ON OIL SPILL PREVENTION AND MARITIME REGULATIONS

My name is Channing F. Hayden, Jr., and I am Vice President of the New Orleans Steamship Association. The New Orleans Steamship Association represents 58 owners, operators, agents, and stevedores working on the Mississippi River from the Gulf of Mexico through the Port of Baton Rouge--some 250 river miles. Our members, in turn, represent thousands of the deep-draft vessels which call upon the Mississippi River each year.

Any discussion of safety on the Mississippi River must begin with statistics that delineate the level of safety on the river. The Coast Guard provided some of those statistics at the May 10th hearing. According to Coast Guard testimony, in 1988, 0.007 percent of some 400 million barrels of oil transported in the New Orleans district was involved in spills; that is one barrel out of each 14 1/4 million barrels. That, in itself, is an enviable record. Another statistic which highlights the safety record of the Mississippi River is the number of collisions/allisions here. The Coast Guard reports that in 1987 there were 18 collisions/allisions between Baton Rouge and the Gulf. In 1988 there were 17 such incidents. Corps of Engineers statistics show about 370,000 transits annually between Baton Rouge and the Gulf. Only five thousandths of one percent of the vessel movements were involved in collisions/allisions in 1987 and 1988.

These statistics **do not** support the statements that have been made about safety on the lower Mississippi River. We **are not** a bomb waiting to explode. We **are not lucky** that there have been no major accidents. We work at safety continuously.

There are at least two organizations in this area which devote themselves to safety issues on the Mississippi River. The first is the New Orleans Port Safety Council. The Safety Council is a voluntary organization comprised of government and industry representatives. This organization focuses on Mississippi River safety, and, at its regularly scheduled meetings, discusses safety issues. The Coast Guard uses the input of the Council to take appropriate action to enhance navigational safety.

The other organization is the Lower Mississippi River Waterway Safety Advisory Committee. This is the official Safety Advisory Committee of the United States Coast Guard and is chartered by the U.S. Department of Transportation. There is some overlap between these two organizations, but the latter organization can, and does, advise the Coast Guard on safety matters as it relates to the lower Mississippi River. Again, on the Safety Advisory Committee there are representatives from all of the industry interests which use the Mississippi River.

To insure the safe transits of vessels, we comply with the requirements of the Bridge-to-Bridge Communications Act and have always supported this Act vigorously. In fact, the shipping industry on the Mississippi River was one of the first, without the requirement of law and at industry's expense, to equip our state Pilots with hand-held radios to allow bridge-to-bridge voice communication. This provides a closer link between pilots on deep-draft vessels than does the ship's equipment. The radio equipment is continuously updated to insure a state of the art system.

In a Congressional review of all United States ports, it is very important that Congress recognize the inherent differences between ports. Congress must insure that whatever safety measures are applied should be port specific. It is very difficult to apply the same rules and regulations for a tidal port with a rock bottom to a river port with a soft bottom, such as the Mississippi River. This was confirmed by some of the Coast Guard witnesses at the May 10th hearing.

When customizing a safety system for the Mississippi River, it is necessary to take into consideration such factors as the long route between the Gulf and the Port of Baton Rouge, the number of course changes (turns), the volume of traffic, and the fact that the river has an extremely soft bottom, rather than a hard sand or rock bottom which may be found in other ports. Once the unique conditions of the Mississippi River have been recognized, the safety system for the Mississippi River should divide itself into two basic areas--preventing collisions/allisions and preventing/responding to groundings.

Bridge-to-bridge communications is part of a system to avoid collisions/allisions. Another part of that system would be a Vessel Traffic Service (VTS)--but far different from the old New Orleans VTS.

Operated by the Coast Guard from early 1977 to early 1988, VTS New Orleans was never fully accepted by the industry because of its gross deficiencies. VTS, as implemented in New Orleans, was a computer simulation of traffic conditions on the river based on verbal input from VTS users and Coast Guard monitoring of communication transmissions between mariners. While the watchstanders at VTS looked at a mock radar screen, they were, in fact, watching computer generated images that were based on estimated and assumed information. VTS New Orleans, as it was originally conceived and implemented, was nothing more than a very, very sophisticated video game. Its input was derived only from participants in the system and not all traffic on the river. With faulty input, the system could generate nothing more than faulty information. However, the mere presence of a system which alleged the ability to tell mariners the location of oncoming traffic may have lulled some participants into being less alert than they might otherwise have been. This, in itself, may have been a safety problem rather than a safety solution.

The maritime industry was not enthusiastic about VTS as it originally applied to New Orleans. However, in theory we support the concept if it meets the following criteria:

(1) It must be a real-time system;

(2) It must include actual surveillance of the river, through measures such as radar, low-light television and/or other state of the art technology;

(3) It should be staffed by civilian personnel with Coast Guard supervisors, much as the Corps of Engineers is staffed. This will provide continuity of staffing and assure that adequate local knowledge is developed in VTS personnel so as to truly aid mariners;

(4) It should require most, if not all, commercial river traffic to participate in the VTS. This would include fishing boats, offshore supply boats, etc., as their presence on the river creates some of the traffic hazards VTS is designed to reduce. (One hundred percent participation is still debated in some circles because it may overload the system.)

With respect to a user fee to pay for the New Orleans VTS System, we do not favor such an application. While vessels are the direct users of VTS, the System itself is designed to protect not only vessels but also the communities along the river. Thus, secondary beneficiaries of the VTS System are parishes, river cities, and individual citizens which reside in and/or work in proximity to the river. Unless a method for assessing all of the primary **and** secondary beneficiaries can be established, a user fee for vessels would be inequitable.

Secondly, all vessels, deep-draft, shallow-draft, fishing vessels, supply vessels, etc., will benefit from the VTS. The difficulties associated in assessing a user fee against the smaller vessels, especially the fishing vessels, may make it less than cost effective. This would leave an unfair burden on other commercial interests which are already overtaxed with user fees. Unless all users are required to pay their fair share of the cost of VTS, any fee on the easily assessable participants would only further the inequities.

VTS is designed to reduce the danger of collisions on the Mississippi River. However, a safety problem can occur on the river during a grounding. While VTS can advise mariners of groundings, other procedures are necessary to safely deal with such a situation.

When discussing groundings on the Mississippi River, one must bear in mind that a grounding is not as dangerous as might first be assumed. This should not be interpreted to mean that the New Orleans Steamship Association is unconcerned with groundings. However, grounding in our channel is relatively safer than it might be in other areas. Because of the soft bottom in the river, a grounding on the Mississippi River is when a ship, literally, is stuck in the mud, much the same as might happen to a car on a rainsoaked, backcountry road. Typically, there is nothing inherently dangerous with a ship being stuck in the mud, just as there is nothing inherently dangerous in a car being stuck in the mud. The danger comes from the position of the ship in relation to the normal location of traffic and the volume of that traffic. To the best of my knowledge, no grounding in the Mississippi River has lead to a pollution incident. However, because of the ship's location and the traffic in the area, some groundings have caused serious concerns.

Basically the groundings on the lower Mississippi River can be divided into two categories--critical and non-critical. A non-critical grounding is one where the vessel is substantially out of the channel and neither its position nor the circumstances surrounding it (i.e., eddies caused by the diversion of the current around the ship, etc.) pose a navigational safety problem or impede the commerce of the port. When this happens, the ship is not a serious safety problem and is only an expense to the vessel owner. In these cases, a ship aground in the Mississippi River is like a car with a flat tire on the shoulder of an interstate--it generally poses little danger to the rest of the traffic.

On the other hand, a critical grounding is one which impedes navigation or commerce on the lower Mississippi River. The New Orleans maritime community is painfully aware of such groundings, as one occurred on March 20, 1989. The vessel grounded at Head of Passes in the Mississippi River and stayed aground for 26 days. This situation was a safety problem. We attach the New Orleans Steamship Association's comments submitted to the Coast Guard, Corps of Engineers, and the Pilots' Associations outlining the procedures we recommend when a critical grounding occurs.

It should be noted that these grounding procedures would be recommended whether or not there is a VTS in place on the lower Mississippi River. VTS could advise mariners of the existence of the problem. However, VTS would not be sufficient as a tool for having the grounded vessel removed, nor would it necessarily prevent groundings.

Two other safety concerns should be considered in any discussion regarding navigational safety on the Mississippi River. The first involves anchorages on the river itself. Obviously, safe anchorages are needed to facilitate vessel movement on the river. Anchorages are more than a commercial consideration. Disabled vessels need to anchor safely in order to effect repairs. Allowing vessels to anchor on the river helps eliminate some of the congestion that might otherwise occur if all vessels had to anchor in the Gulf and then transit, as much as 250 miles, to their loading facility. Recently a conflict developed between the needs of vessels to have safe anchorages and the Corps of Engineers revetment program which provides bank stabilization in order to insure flood control.

At the outset, the Corps of Engineers must receive our highest praise for their cooperation in resolving this problem. The Corps has taken some measures to minimize the impact of their revetment program on the anchorages in the Mississippi River. The details of their measures can be furnished to you upon request. The prompt and professional way in which the Corps addressed the problem is commendable. Nevertheless, the solution to the problem may only be a stopgap procedure. The Corps has agreed to monitor the soil erosion in a number of industry's most important anchorages so as not to revet these anchorages unless absolutely necessary. While this solves the problem for the time being, it does not address what will happen if the soil stability in the area eventually requires bank stabilization. In order to find a long-term, permanent solution to the problem, satisfactory to all sides, industry suggests that the Corps be provided sufficient funds to research alternative methods of bank stabilization to be used in anchorage areas. Successful research in this area will allow the Corps to maintain its flood control commitments while at the same time allowing these much needed anchorages to continue in use. Anchorages are aids to safe navigation and port operations and not just a matter of economics.

The second item is structures in and around the fairways and anchorages in the Gulf of Mexico. By way of background, please be advised that in the early '60s the New Orleans Steamship Association and other steamship associations in the Gulf worked with the federal government to establish fairways and anchorage areas in the Gulf of Mexico. A fairway is basically a highway for shipping. No structures, i.e., drilling rigs, are allowed. Fairway anchorages are not completely void of structures but are monitored with certain restrictive limits based on the location of a structure. The fairways are approximately two miles wide and sufficient to accommodate ships passing each other. The oil industry and the steamship industry, both of whom need the Gulf of Mexico, have been able to co-exist.

Over the years, however, the need for developing our petroleum resources has caused added burdens on navigation. As the number of structures in the Gulf of Mexico grow, so does the number of structures which are placed at the edge of fairways for directional drilling beneath these fairways. These structures along the fairway edge tend to constrict the ship's use of the full width of the fairway. More pipelines cross the fairways, some in areas which have heavy traffic. Also, the number of structures within fairway anchorages have increased. The key concern with these drilling or production platforms in anchorages is not the structure above the water but the transmission pipeline from the structure needed to move the product. These pipelines are usually just 10 feet below the bed of the waterway with only soft soil to protect the line from rupture by a ship's anchor. Further, the pipelines which cross the fairways are also usually just 10 feet below the bed of the waterway. For years 10 feet has been considered a minimum depth for pipelines. As drilling operations in the Gulf continue to grow, so do the potential safety problems, and, therefore, we recommend the following:

(1) A review to determine the safe depth below the bed of a waterway for pipelines to be buried so as to prevent rupture by a ship's anchor;

(2) A change in the process for permitting structures within an anchorage. The change would require drilling apparatuses to be placed close to the outer boundary of the anchorage, with directional drilling into the anchorage. Transmission pipelines should then be required to depart the anchorage by the shortest route to the closest outer boundary. Drilling apparatuses should not be allowed in an anchorage immediately adjacent to a fairway.

The New Orleans Steamship Association appreciates the opportunity to submit comments into the record of this hearing. Thank you very much for this courtesy.

CPHjr/cme

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1011 E. TUDOR RD.
ANCHORAGE, ALASKA 99503

IN REPLY REFER TO:
RD

MAY 18 1989

Mr. Roger McManus
Center for Marine Conservation
1725 DeSales Street NW
Washington, D.C. 20036

Dear Mr. McManus:

I had the opportunity to hear your testimony regarding the Exxon Valdez oil spill before the National Ocean Policy Study of the Senate Committee on Commerce, Science and Transportation on May 10, 1989, and subsequently reviewed your written statement. Frankly, I was surprised by the tone and content of your testimony and statement which are both highly critical of the U.S. Fish and Wildlife Service and its efforts related to the spill. I am especially concerned about the inaccuracy of some of your statements which obviously do not present a true picture of the Service's response to the oil spill and activities related to meeting our responsibilities to those species under our trusteeship. Normally I would not rebut allegations of the nature you have lodged; however, yours leave such a distorted picture of our extensive efforts that I feel compelled to set the record straight. It is obvious that your statements are based on incomplete and inaccurate information. The following responses pertain to comments contained in your written statement. They are not intended to be critical of you or your intentions -- they are intended to present the facts.

In the last paragraph on page 4, you indicate that Service officials were "unaware or unconcerned" that access to data was being denied to Federal officials by Exxon contractors and were exercising no authority over autopsies of sea otters and migratory birds. To my or my on-site coordinators knowledge, there was no effort by Exxon's contractor to restrict our access to data or animals. We have met with them on numerous occasions to insure that we do have unrestricted access. We will agree that there was some confusion for a short time after the event on the part of most participants. This should not have been unexpected as everyone involved plunged from a routine operation into a full blown emergency of massive proportions. Our attention was initially focused on doing what was necessary to insure adequate measures were being put in place to start rescuing sea otters and migratory birds. Valdez was a beehive of activity and I would describe it as hectic if not chaotic.

The spill occurred on March 24 and the Department of the Interior and the Service had on-site coordinators in Valdez on the same date. Since it was not, and still is not a Federal spill, it was Exxon's responsibility to address animal rescue, cleaning, and rehabilitation needs. They moved quickly to enter into contracts to handle these activities Our responsibility was and is to provide oversight and direction as necessary to insure that the needs of sea otters and migratory birds are met appropriately. This was handled in Valdez by our on-site coordinator. Because of the press of more urgent needs early on there simply was not time to develop written protocol to cover all activities.

Frankly, everyone involved was more concerned with saving critters than in developing paperwork. However, during the second week after the March 24 incident, Service representatives at Valdez: 1) met with Exxon contractors regarding necropsy and pathology work planned or which had been initiated; 2) provided dead specimens which we had received at the freezer van in Valdez to Exxon's pathologists so they could accomplish similar work to compare findings obtained from live animals which died at the rescue centers to those animals which died in the Sound; and 3) began shipping specimens to our National Wildlife Health Center in Madison, Wisconson, for analysis. We had numerous discussions then and have continued to have on-going discussions with Exxon's contractor regarding this work.

When time allowed, organizational arrangements were tightened up and some of the more essential documentation prepared. We have had two Federal pathologists involved with the autopsies and continue to ship samples to our National Wildlife Health Center for work up. We have a Letter of Agreement with Hubbs Marine Research Center authorizing them to collect, clean and rehabilitate sea otters and which clearly states that all necropsy and pathology data collected, are the property of the Fish and Wildlife Service. Also, that Service personnel must have unlimited access to the animals and to data collected from the rehabilitation. Similarly, we have issued a permit to the International Bird Rescue and Research Center which requires that all data relating to migratory birds is the property of the Service. Our on-site coordinators have and will continue to insure that provisions in the agreements with the contractors, who have generally been quite cooperative, are fully met. Valuable data have been collected, particularly with regard to otters, and we see our responsibility as being the guardians of these data and to insure they are made available as appropriate. I hope this clarifies the data control situation. Your statement reflects an out of control situation which the facts simply do not support.

Your statement alleges that "weeks after the oil first touched the Kenai Peninsula, the U.S. Fish and Wildlife Service had not one dedicated boat or plane in that Region documenting the wildlife damage and rescuing oiled sea otters." I assume that "weeks after" means 14 days or more. Our records indicate that some oil began to flow from Prince William Sound around April 1 and moved to the southwest until approximately April 5 when a storm moved the oil to the west. The Service began flying pre-impact surveys of this area on April 6, 1989. Boat surveys were cooperatively initiated on April 4. The National Park Service provided vessel and crew and the Service placed a biologist on board. Movement and impacts of the spill have been monitored by the Service ever since and, of course, will continue in the future as needed. I believe the Department's coverage has been more than adequate to assess impacts on those species under our trusteeship. We also surveyed potential impact areas on the Barren Islands, Alaska Peninsula, Shuyak, Afognak, and Kodiak in advance of the spill.

You also indicate that we did not publicly advocate for a sea otter rescue facility in Seward until "almost a month after the spill." In practice, the way we do business is to insure that the party responsible for the spill is provided the guidance and direction required to rescue and recover sea otters and migratory birds. We do this through direct communication, and not through some public process. The facts are that on April 5, I requested Exxon, through my on-site coordinator in Valdez, to construct an otter rescue center in Seward, Alaska. That same day I decided that only Service approved otter catchers would be allowed to catch live otters. The rationale for that decision is extensive and I will not expound on it here. At that time, Exxon had two approved otter rescue boats and we had two otter rescue boats operating in Prince William Sound. These vessels were supported by two helicopters and one spotter plane. I then personally asked Exxon to develop fully equipped bird and otter rescue centers in Seward on April 7, 1989, only 14 days after the spill occurred and before any otters along the Kenai Peninsula were impacted by oil. I was assured these would be operational in three to four days. My initial request was followed up with several other requests urging Exxon to expedite completion of the facilities.

The second paragraph on page 5 of your statement really confuses me. It implies that the Service, Region 7 in this case, never called upon its own Research staff (Region 8) to help on the spill. This is simply not true, again as the facts will attest. Service personnel located in Alaska, both management and Research, have a substantial amount of knowledge about and extensive experience with sea otters. I was rather surprised at the attitude of some outside interests that all the sea otter expertise is located in the Lower 48. This simply is not the case and represents a real disservice to Service biologists and others headquartered in Alaska. I should point out that Service biologists located in Alaska have been conducting research on otters in Prince William Sound since 1957 and we have population data on some areas dating back 27 years. Service Research biologists began working on the spill from the very outset and were a valuable part of the efforts to develop the otter rescue, rehabilitation (including necropsy and pathology) and release programs. We consider our Research people to be an integral part of the effort and they have been strong contributing members of the Service team.

There were feelings on the part of some that we should gather up every otter "expert" or "specialist" in the Lower 48 and bring them all to Alaska immediately after the spill occurred. I did not think that was a good idea then and I still don't. In the early stages there was only a single otter facility in Valdez located in a rather hectic work environment. It was my conclusion then that it would not be productive to bring all these people up at one time to a single location as we would have had otter experts sitting on top of one another in Valdez. Also remember that they all had full time jobs of their own and, if they were brought to Alaska, something was going to be left undone. I would also point out that the Service's Lower 48 sea otter biologists are basically assigned to the endangered southern sea otter project in California -- another critical program of the Service. Based on the foregoing, it was my decision to call on our otter people on an as-needed basis as the spill evolved. In practice, I think this has worked out exceedingly well. At one time or another, 7 otter biologists from the California project have worked on-site on the spill. We were pleased that 2 otter biologists from the State of California were also able to assist. In addition, 3 other biologists from our Region 1 have been asked to come on-site and help us with the sea otter rescue effort. At this point, 30 different Service employees have worked on sea otter aspects of the spill. This is hardly an undirected, lack of caring approach as you have presented it.

In addition to Service otter experts, most of the otter specialists in the private sector have spent varying amounts of time working in the rescue centers. I will not name names for fear of overlooking someone, but the list is impressive. These people were basically asked to join the effort at the request of Exxon's contractor; however, I did provide a suggested list to the contractor early in the spill. I would be remiss if I did not mention the many volunteers, including some veterinarians who took time away from their practices, who have made substantial contributions to the effort. Some have worked directly with the Service and some in the contractors facilities. Excluding vessel operators and volunteers, over 78 professional and technical personnel from all sources have worked with otters. Overall, it has been a substantial collective effort -- a fact which seems to have escaped you and other casual observers.

In the same paragraph you asked why a "senior Service official was not stationed in Valdez"... to direct boom placement and cleanup operations..." I remind you once again, this is not a Federalized spill. Also, in the response mode we were, and are in, the Coast Guard is the lead Federal agency and serves as the on-site coordinator. The Service has absolutely no authority to direct boom placement. Along with other agencies our role is advisory in nature, i.e., to provide advice and counsel in planning efforts regarding such things as critical areas requiring booming, priorities for beach cleanup, etc. I repeat, in these areas we serve only as advisors but do whatever we can to promote a strong advocacy for those resources we are responsible for. As I said previously, we have had a representative in Valdez since the first day of the spill and we provided and continue to provide recommendations to the U.S. Coast Guard for actions which they clearly have the responsibility for. We also have on-site coordinators in Seward, Kodiak, and Homer who have similar duties and perform the same functions. It might be helpful if you would obtain a better understanding of how a non-Federalized spill is organized, and who is responsible for what.

You indicate in your statement that "...a Service official in Anchorage..." told you that sea otter rescues were "...just a public relations problem..." I would only comment that I have about 400 employees and there are a wide variety of viewpoints and philosophies spread among them. Some are involved with the spill and some are not. Some are involved with only certain aspects of the spill, i.e., otters, while others have broader responsibilities. I don't doubt your word, but I did not make the statement and doubt that any of my top managers made it. It certainly does not represent my views and I am the only individual charged with determining Service policy in Alaska. I can assure you that we have done, and will continue to do what our professional judgement tells us is best for the resource, regardless of what this means on the public relations front.

In the second paragraph on page 7 of your prepared statement you express concerns about the damage assessment process we are currently embarked upon and leave the impression that a decision has already been made by the Department of the Interior to not press for full damages resulting from the spill. This conclusion is premature to say the least, since we have just begun the damage assessment planning process as outlined in 43 CFR Part 11 and, obviously, no final decisions have been made as to the type and level of damages which may ultimately be sought. Such wide ranging, erroneous and unsubstantiated statements are simply counter productive.

In summary, let me say that I have worked for 29 years for the U.S. Fish and Wildlife Service. I am extremely proud of the Service and my personal career. I have been criticized before and will be in the future. I have no problem with being criticized when it is warranted, but tend to resent it when it is without basis. I cannot recall ever writing a letter like this one. The fact that I have written it should illustrate to you to some degree my level of concern over the entirely unfair, groundless allegations you have leveled. The fact that you chose to do so in the forum you did is truly amazing since it is now a matter of record and you must defend it. I was truly disappointed that the Committee's time ran out before I was afforded an opportunity to respond; however, I look forward to formally doing so in the future.

Before closing, I must reemphasize how proud I am of the Department, the Service, and our personnel in dealing with this great disaster. Our people have worked long hours under very stressful conditions in dealing with the situation. Regular working hours have been forgotten and weekends have been worked without complaint. As always, Service personnel have done whatever was necessary and whenever it was necessary to get the job done. Over 70 Service personnel have worked on the spill to date. I don't think leadership has been lacking and let me assure you there has been plenty of "fire in the belly." You are certainly welcome to your opinion, although those of us here in the trenches, who have been dealing with the spill on a continuous basis for the past 56 days, take strong disagreement with it.

Mr. McManus, I truly don't know what your motives are or where you are headed, but I do wish you would check out the facts a bit more closely in the future. If nothing else, I would think you would have some concern over how this reflects on the credibility of your organization.

In order to set the record straight I am providing copies of this letter to my Director, the Secretary of the Interior, Members of the National Ocean Policy Study of the Senate Committee on Commerce, Science and Transportation, other select Congressional committees, the Alaska delegation, and others as appropriate.

Sincerely,

Walter O. Stieglitz

Walter O. Stieglitz
Regional Director

Center for Marine Conservation
Formerly Center for Environmental Education. Est. 1972

Roger E. McManus
President

June 7, 1989

Walter O. Stieglitz
Regional Director
U.S. Fish and Wildlife Service
1011 E. Tudor Road
Anchorage, Alaska 99503

Dear Mr. Stieglitz:

I have received your letter dated May 18, 1989. Recently, I discussed the U.S. Fish and Wildlife Service's response to the Exxon Valdez oil spill with Steve Robinson, and he suggested we meet and talk to you when you are next in Washington, D.C. I told him that I would be pleased to do so. I too, was disappointed that you were unable to testify on May 10.

At the outset I would like to emphasize that objectivity is of paramount concern to me and the Center for Marine Conservation. If I or others of our staff have made an error, we will freely admit it. You are correct that we are dealing with incomplete information; that is to be expected for a private organization reviewing the "actions and policies of a government agency." I expect that continuing review by the government and the private sector will improve understanding about both the government and the industry response to the Exxon Valdez disaster.

As I emphasized in my testimony before the National Ocean Policy Study of the Senate Committee on Commerce, Science and Transportation on May 10, the criticism of the Service's response must be tempered by any policy restricting your response imposed by the Department of the Interior, as well as by funding concerns. Congress and the public need to know the degree to which such factors influenced the Service's response to the oil spill to ensure that necessary legislative or policy initiatives are taken to alleviate such constraints in the future.

Nonetheless, as is evident from the balance of this letter, I do not believe that your May 18 letter substantiates that the concerns I have expressed are without merit. Indeed, none of your responses to any specific issue suggests that the problems identified can be dismissed. The potential for accidents like that of the Exxon Valdez had been well estasblished prior to March 24, and the species under the Service's jurisdiction that were likely to be impacted were well known. Your emphasis on the fact that the spill had not been federalized must be evaluated in the light of President Bush's policy, as reiterated by Admiral Yost, establishing a proactive, leadership role for the Federal government.

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As you suggest in your May 15 letter, "Valdez was a beehive of activity" and it was "hectic if not chaotic." The level of activity and the chaos demanded on-site leadership and needed expertise, and proactive advocacy for sea otters and migratory birds, which are the Service's responsibility.

One can ask, for example, why the Service declined to bring out its own National Wildlife Health Center pathologists to supervise autopsies and pathological work of sea otters and migratory birds? Was it because of financial or Departmental policy constraints? Notwithstanding the commendable efforts of EPA staff in assisting the Service, the plain fact of the matter is that the lack of uniform protocols for examining wildlife killed from the spill resulted in different methodologies for examining the animals and taking samples, and in the samples not being maintained in a consistent manner and at one location. Such problems could have been avoided by having a Service Pathologist on the scene as soon as possible after the accident occurred -- the Service is the federal agency responsible for these animals, and only Service personnel could reasonably be expected to represent with authority the concerns and requirements of your agency to Exxon officials and contractors.

I appreciate that to your knowledge neither you nor your on-sight coordinators knew of any problems concerning access to data and animals. I should add that you were not alone among the Anchorage personnel in being unaware of this problem. Nonetheless, I was present at a meeting with Service personnel in Valdez when such problems were discussed. Serious questions were raised about sampling techniques and needs, and access to animals and samples. Those discussions highlighted that such problems undermined the usefulness of the samples collected, and that Exxon wanted to severely limit the samples taken. Your praise of Exxon's efforts to establish rescue operations and your remarks regarding the Service's efforts to assist in that effort (both of which I will address further below) notwithstanding, I simply do not agree that proper research protocols can be dismissed, as you suggest, as "developing paperwork." Such protocols are essential elements of such work, and could have been quickly and easily established by having expert Service personnel controlling the situation on the scene.

Our observations from working with Exxon staff, with regard to the issue above and others is that they fielded senior, tough, crisis-tested, and public relations-conscious personnel. My contention, with which you disagree, is that senior Service officials should have been present in Valdez on a day-to-day basis. Only such officials would have the ability to deal directly with Exxon decision makers on problems such as the one noted above.

This brings me to the second matter on which we fundamentally disagree, as your letter makes clear: the need to have secured immediately the services of Fish and Wildlife sea otter experts based in California. I am aware of the circumstances regarding your decision to limit who could capture live otters, and we largely concur with the rationale leading to that initial decision. Having made that decision, however, the lack of Service personnel experienced in handling otters and who could train others was a major bottleneck in rescue operations that was openly acknowledged and lamented by Service personnel and others associated with the rescue efforts.

The Exxon Valdez oil spill is the biggest in American history, and it is the greatest, most immediate threat to sea otters in Alaska. I am not persuaded by your suggestions that the routine work of the Service's Lower 48 sea otter biologists prevented their immediate and full attention to this tragedy. I feel certain that they would disagree with that view. With all respect, the facts based on our observations in Valdez and Seward and on our conversations with individuals associated with the rescue work support our conclusion that each and every one of those experts were needed, and that there were plenty of boats available for them to work on simple rescue and training operations, if nothing else. Whatever value one may wish to give sea otters in Alaska, countless animals died because the Service did not make use of available personnel in rescue operations. There should have been no potential for such personnel "sitting on top of each other" as you stated in your letter.

I feel confident, too, that research and damage assessment have suffered because these personnel and others in Region 8 were not adequately used in the first weeks of the spill. Because the Service did not act quickly to involve personnel from California, information that would prove valuable in the event of a major spill affecting California sea otters was not collected. Service personnel both within and outside of Alaska, other federal officials concerned with mammal consrvation, and private researchers who are directly associated with the work on sea otters and migratory birds share this view.

Regarding the expertise of the Service's sea otter personnel, I found the statement on page 3 of your letter perplexing:

> I was rather surprised at the attitude of some outside interests that all the sea otter expertise is located in the Lower 48. This simply is not the case, and represents a real disservice to Service biologists and others headquartered in Alaska.

This statement reinforces our concern that the attitude embodied in it contributed significantly to decisions not to make full use of available Service expertise. Mr. Stieglitz, no one that I know of has suggested that all such expertise lies in Lower 48, and no one could reasonably suggest that in the face of such a catastrophe it would be an affront to Alaska personnel to bring in others with expertise and experience. As noted above, the simple need for people with experience handling otters warranted the presence of these personnel, but in any case, it certainly does not denigrate your personnel to suggest that someone else within your own agency has needed expertise and experience.

The U.S. Fish and Wildlife Service is one agency, and one would hope that its leadership would view Service personnel nationwide as colleagues who would welcome the opportunity to work together to share their expertise and experience in such a crisis. Instead, the ultimate use of the California personnel followed a storm of protest from within and without the government in response to the failure to involve them immediately after the spill, when their help was clearly needed. The facts are clear; Service personnel in Regions 1 and 8 were greatly disappointed by your decisions not to make use of their expertise and help in responding to the oil spill and in assisting with the affected species. The view that they were underused is shared by other state and federal personnel, and, as you acknowledge in your letter, by many others.

You emphasize on page four of your letter that there was substantial collective effort involving many volunteers regarding the otter and migratory bird rescue. I, too, fully appreciate the efforts of these volunteers. Nonetheless, your observation has little to do with concerns regarding whether the Service did what it could or should have done. Among the most prominent of those volunteers were those recruited by individuals outside the Service because of their concerns regarding the deficiencies in the Service's and Exxon's response to the spill.

With respect to the Kenai Peninsula situation discussed on page 2 of your letter, I stand corrected regarding my ignorance of the surveys you cited. I would be keen to know of the results of those surveys. As you are aware, up until late April Exxon was arguing against building the Seward facility because, as Dr. Allen Maki of Exxon argued, available information concerning oiled otters in the region did not justify the regional facility. I raised this matter at the evening science meeting, noting that the region was contaminated by oil, had many otters, and that fishermen were reporting many oiled otters.

By that time the need for the Seward facility was receiving considerable press attention. The Service conducted boat and helicoptor surveys confirming the fishermen's reports, and subsequently David E. McGillivary of your staff spelled out in clear terms at the Valdez evening science meeting that the Service had documented the presence of oiled otters and in numbers that fully justified the construction of the Seward facility. At a later meeting Dr. Maki begrudgingly announced that Exxon would build the facility. (As you know, after the Senate hearing and further press attention on the need for Exxon to expand the Seward facility it was expanded to a capacity of 100 animals.) The Service's efforts to persuade Exxon to build the Seward facility were needed and appreciated.

Regarding my original statement in my testimony, however, I wish to emphasize that my comments included not only documenting wildlife damage in that region, but also "rescuing oiled sea otters," which you did not address in your letter. One problem that was clearly identified by individuals associated with the rescue efforts as a major bottleneck to the operation was the lack of designated vessels for rescuing otters and the inadequate number of Service personnel to assist in that effort. Those in charge of the daily operation of Exxon rescue boats for migratory birds out of Seward had no direction from Exxon or the Service to provide boats for otter rescues when we spoke to them. The rescue efforts taking place up to the latter part of April were being conducted on an ad hoc basis with the limited Service personnel available being provided access to boats on an opportunistic basis.

While in your letter you note that you eschew the need to use public process in your advocacy, the Service's press efforts simply do not square with arguments that the Service did not publicly advocate for the Seward sea otter rescue facility late in April and May. Mr. McGillivary's statement was polished in a manner that certainly had all the appearences of a major decision by the Service to be more aggressive. A May 1 press release from your office summarized your efforts to get the Seward facility built and reflected the urgency resulting from Exxon's delays. In the face of that public effort and press attention to the problem, Exxon had little alternative than to comply with your recommendations. Clearly, direct communication was not convincing Exxon to build the facility, and a more public process was warranted (and more successful.) My concern regarding the Seward facility was that if the Service had been more aggressive weeks earlier, the facility would most likely have been built sooner, and many otters that died no doubt could have been saved.

Good public relations is an important component of the Service's decision making process. This is not to say that the Service should base management decisions primarily on public relations considerations, but rather that the public does have views worthy of the Service's considerations in making its decisions. Whatever one thinks of the population status of sea otters or other wildlife, the public, your public and your constituents, expects the Service to go to bat aggressively for those resources. This is certainly the case when the threat comes from gross negligence and a well documented background of broken political promises and incompetence, as is increasingly documented for this accident.

With regard to my statement regarding the Service official who noted that the sea otter rescues were just a public relations problem, this individual is a senior member of your staff who had direct, supervisory responsibilities for responding to the spill. While it may be your policy, as noted in your letter to me, not to make decisions based on public relations, this policy was not universally recognized in Anchorage. One senior Service official reacted to our questions concerning the California otter personnel by noting that those people would just "upstage" the Regional Director.

The Exxon Valdez oil spill is a catastrophic event that will result in major changes in federal laws. Soon after the accident it was clear that existing rules and procedures were inadequate to address the problem and that extraordinary measures were required. Based on my experience and that of my colleagues dealing with federal and state personnel and Exxon officials in Valdez in the latter part of April, on-site senior Service leadership was sorely needed. You may disagree, but I believe, for example, that if the California otter and the Lower 48 staff had been brought in immediately, the Service's response to the spill would have been vastly improved - not because the Service's Alaska staff are not capable proffessionals, but because the extra hands and expertise were clearly needed in an emergency situation. I feel strongly that if greater effort within your capabilities had been exerted, the Seward facility would have been built sooner, animal rescues would have proceeded much more efficiently, and opportunities to boom and clean areas critical to sea otters and migratory birds could have been better exploited.

In your May 18 letter, you refer to my prepared statement concerning the damage assessmant process. You note that my remarks were "wide ranging, erroneous and unsubstantiated" and "counterproductive." The fact of the matter is that unless the courts reverse the Service's regulations or Congress acts, the Department of the Interior will assess the damages of wildlife killed by the oil spill based on their commercial value. It is my view that this was not the intent of Congress and is contrary to existing law, and I wanted to call the attention of the Committee to that problem. I view that as a very productive thing to do. With regard to the actual process of establishing wildlife losses, my understanding to date is that the Service personnel are doing a good job of trying to implement a very carefully conceived and credible evaluation. The issue is not their professionalism, but how wildlife losses will be translated into damages assessed against responsible parties in the oil industry.

This leads me to address my motives, which you have questioned. If you review my testimony before the Senate, you will note that we have raised serious questions concerning the response of only two government agencies, the Service and the Coast Guard, while praising several others. In reviewing the Service's response, we have identified several major decisions with which we strongly disagree. We were impressed by how strongly our views were shared by Service personnel, other federal officials with responsibilities relating to the spill, state government officials and private scientists.

One could argue simply, as you have in your May 18 letter, that I and others are ignorant of how the response to such oil spills is conducted, that I have incomplete information, or that otherwise my concerns or criticisms have no basis. I think this letter refutes this line of arguement.

I started my career in conservation with the U.S. Fish and Wildlife Service. I have defended and promoted the Service for over a decade both in government and the private sector. I, too, feel a great pride in the men and women of the Service. I have not always agreed with all of the Service's decisions that concerned my interests, but have regularly deferred recognizing that someone has to make those decisions, presumably someone with more available information. The Center has worked closely with the Service in many areas, and our staff has worked hard to build close and constructive working relations. I submit that the reason we have been greatly concerned and sharply critical of the Service's response to the Exxon Valdez oil spill is that such concerns and criticisms are warranted - warranted to such a degree that those of us who have never offered such criticisms feel compelled to do so now.

You questioned where I am headed with this? My view is that the reasons for what we believe were serious deficiencies in the Service's response to the oil spill must be clearly identified. Perhaps it was because of constraining directives from the leadership in the Department of the Interior, a lack of funding, or internal decisions within the Service. I don't know what the reasons were, but the Service's responsibility and credibility are too important to let these criticisms go unanswered or the underlying problems go uncorrected. Whatever the reasons, it would not be accurate to suggest that my criticisms are directed at the rank and file -- they are not. They are directed at those who made the decisions.

Finally, I do not share your unbridled pride in the Department. Throughout most of the decade we have witnessed a steady deterioration of morale by many Service employees. They have had idealogues make major policy decisions without regard to the Service's mission or responsibilities. They have been transferred, intimidated and fired for speaking their minds and doing their jobs. There are elements of those troubling problems with respect to the Exxon Valdez situation. One of the greatest challenges and opportunities facing Secretary Lujan and his new staff is solving those problems and restoring the esprit de corps of the U.S. Fish and Wildlife Service.

I am glad you have taken the opportunity to copy your letter to the Secretary and to others, as I will do with this response. Again, I hope you have the opportunity to testify before the Senate Commerce Committee on this issue, and have every opportunity to provide them with your version. I do not agree, however, that your letter "sets the record straight," although it certainly provides additional information that I am sure many reviewing this issue will find helpful in understanding the Service's response to the Exxon Valdez disaster.

Sincerely,

Roger E. McManus,
President

ANGELO FOSCO
General President

ARTHUR A. COIA
General Secretary-Treasurer

ROBERT J. CONNERTON
General Counsel

Ledger Diamond, 1st Vice President
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15 May 1989

Admiral Paul A. Yost
U.S. Coast Guard
G-C/22
2100 Second Street S.W.
Washington, D.C. 20593

Dear Admiral Yost:

Several hundred members of the Laborers' International Union of North America are actively involved in the cleanup of the Exxon Valdez oil spill in Valdez, Seward, Homer and Kodiak. We are committed to expediting the cleanup without jeopardizing the health and safety of the cleanup workers.

Through our affiliate in Anchorage (Local 341), and our Laborers' National Health and Safety Fund, we have been raising issues with Exxon, its contractors, and the state of Alaska that involve job-site safety and long-term health for the cleanup workers. We want to assure that the environmental disaster that began in Prince William Sound on March 24 does not become a decades-long human health problem as well.

We are writing to you because we are not satisfied with the responses we have received over the past several weeks from any source. This is an urgent matter, in our view, largely because petroleum is a toxic substance which can cause serious health problems ranging from dizziness to skin cancer to nervous system damage.

Our most recent letter to Alaska Commissioner of Labor Jim Sampson, which is enclosed, lists the most pressing questions from our perspective.

We have offered to provide experienced instructors--on short notice--to assist in the massive training program which soon will be under way for the cleanup workers. Our union operates 10 federally funded training sites for workers handling hazardous wastes such as petroleum, which graduate 2,500 workers annually. In Alaska, our Laborers-Associated General Contractors Training Fund has prepared 150 hazardous-waste workers in what is now an 80-hour course.

Admiral Paul A. Yost
15 May 1989
Page Two

Despite our expertise, our offer of training assistance has been turned down, a response which puzzles us. At the same time, we see no quality control in place to assure that Exxon's training program will provide cleanup workers the top-quality information needed to protect themselves adequately.

In addition to seeking your assistance with our listed concerns, we hope that you will promptly bring other federal agencies into the cleanup to assist the state in assuring worker health and safety.

We would like the active participation of:

- the Department of Health and Human Services and its Centers for Disease Control, including the CDC's occupational health and toxic disease registry programs; and
- the U.S. Department of Labor and its agency, the Occupational Safety and Health Administration. OSHA's standard (29CFR 1910.120; 54 FR 9294, 6 March 1989) classifies petroleum as a hazardous substance and mandates more than 40 hours of training for these workers.

We also understand that the federal government has prepared a cleanup plan, and we would like to see a copy.

We appreciate any support you may offer, as we are confident that you share our concerns.

Sincerely,

ANGELO FOSCO
General President

Enclosures:

Letter to Alaska Commissioner of Labor Jim Sampson, 12 May 1989;

ANGELO FOSCO
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General Secretary-Treasurer

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May 12, 1989

Commissioner Jim Sampson
Department of Labor
State of Alaska
P.O. Box 21149
Juneau, AK 99802-1149

Dear Commissioner Sampson:

I am writing to you on behalf of the International Union to express concern over the adequacy of worker safety and health protection in the oil spill cleanup. Our local officials, staff and advisors had the opportunity to attend meetings involving Exxon's contractors and representatives for your Department in Anchorage on April 26 and May 3. While some progress is being made, there are still a number of glaring problems which have to be dealt with before we can feel comfortable with the safety and health precautions for our members who perform cleanup activities.

I appreciate your personal interest in this matter, because without your intervention I doubt if union representatives would have been included in this process at all. A VECO representative noted that he considered this to be a matter between Exxon and the State, and some of your Department's representatives seem to concur in this view.

The presence of an emergency situation does not obviate all requirements for rulemaking or regulatory action. The Coast Guard has denied certification to boats not adequately equipped; the Department of Environmental Conservation has denied Exxon the right to willfully dump any waste; and various land-use permits have been required. In our judgment the Department is required to take a forceful position as well in the interest of workers' health.

Areas where we have particular concerns have generally been outlined to you in prior communications, including a comprehensive report from the LIUNA National Health and Safety Fund of April 24, 1989. However, most of the recommendations in our April 24 report have not been acted upon adequately.

The specific issues we believe require resolution are outlined below:

1. Commission. We have recommended that you establish a top-level Commission on Health Protection of Oil Spill Cleanup Workers. This recommendation relates to the lack of competent expertise inside the Department to monitor whether health protection is adequate. For instance, the Department is short on certified industrial hygienists and toxicologists, and does not have an occupational physician on staff. We have outlined in detail the tasks such a Commission would cover. We again urge you to establish this Commission.

2. Site Safety Plan. We have yet to see a site safety plan which corresponds to the OSHA Hazardous Waste Operations and Emergency Response Standard. In our view, Exxon should be required to produce a specific site safety plan immediately.

3. Toxicology Data. It is extremely difficult to analyze the health problems without adequate toxicology data beyond those which are listed in the Material Safety Data Sheet for crude oil. Exxon claims to have gathered extensive toxicology data from bulk samples of oil on the beaches, water samples, fish and wildlife samples, and personal monitoring of workers by passive dosimetry and by air pumps. Yet, none of these data has been released. As a minimum such data should include sampling times, organized chronologically, and all direct reading instrument measurements, including immediately dangerous to life and health (IDLH) determinants. We also need to see all data from aerosol sampling, especially during pressure hose washing operations. Attached is a list of minimum requirements for a quantitative bulk analysis. We believe the Department should require these data to be made available at once.

4. Worker Training. We have been confronted by a confusing set of facts regarding training requirements and programs. The arguments presented by Exxon and its contractors are very conflicting. The oil supposedly includes highly toxic materials, yet is not dangerous. The oil is "weathered," and therefore does not give off vapors, yet we are told that one should not work around ponds of oil on warm days when the wind is still because he/she might get sick from fumes. From this it is obvious that there may be dangerous fumes, yet Exxon's contractors say that respirators are not needed. Oil is washed off with high-pressure hoses, and the most serious exposure risk is skin contact, yet spray from washing apparently is not a big concern. Given numerous inconsistencies like these, and the fact that the training

curriculum consists only of an outline with very limited instructor guidelines, a lot of faith must be placed in the instructors. Yet, no system for quality control in the content of training or in the delivery of training has been developed, and we have seen no evidence of the written materials that we feel any worker should be entitled to. Finally, the program is very sketchy in a number of areas, and covers about one-tenth of the time required by the OSHA standard. We believe a comprehensive training program can and must be implemented immediately. We have offered the resources of the Alaska-AGC Training and Education Fund and the Occupational Health Legal Rights Foundation to develop the training in conjunction with the Department and Exxon and its contractors. What are the plans of the Department to assure that workers are fully informed, including curriculum, hands-on understanding, and quality control?

5. Personal Protection. Exxon has gone to great lengths to secure a large supply of clothing and equipment. While the Alaska Code 18.60.010 (g)(3)(B) requires supportive documentation for the selection of personal protective equipment, we are not aware of any scientifically valid effort to determine whether this equipment or clothing provides protection from the safety and health risks encountered. For instance, from the literature we have determined that viton-butyl is probably the best material to resist penetration by petroleum products, while vinyl may provide for little protection from penetration. The Department must insist on procedures to determine that the gloves and clothing are adequate to protect from penetration and other hazards, and for changing contaminated clothing.

6. Decontamination. Decontamination procedures apparently are not working. For instance, it is unclear how a worker separates his/her clean clothes from the contaminated clothes, especially at the end of the workday, and how working clothes are cleaned and dried between shifts. The Department must obtain a detailed decontamination plan and inspect to see if it is working.

7. Environmental Monitoring. Workers are apparently equipped with passive dosimeters, and upon request will be equipped with active charcoal filter air pumps. What is the protocol used for this testing, and how are results analyzed? What conclusions have been reached from tests conducted to date? How will the workers be given the results of these tests, and how will the test results be explained to the workers?

8. Medical Monitoring. Exxon does not feel that medical monitoring is required since exposures do not exceed the established OSHA PELs. As far as we know, no PEL exists for crude oil, and we do not believe that Exxon has credible ambient air data on specific constituents of crude oil to make this determination. Further, Exxon has noted that skin contact is the major exposure route of concern for cleanup workers, and PELs don't apply to skin contact. What medical monitoring protocols have been developed by Exxon, and how will they be applied? How will the data be analyzed? How will the workers be given test results, and how will the test results be explained to the workers? What medical precautions have been established for workers with abnormal test results? Are wipe sampling measurements taken on worker skin?

9. Recordkeeping. Exxon claims to have a detailed recordkeeping system in place, and that records of all accidents or health problems are being kept. Is there a specific description of this system, and if so, what is it? What data have been collected to date? How will job history, exposure data and medical monitoring data be included and analyzed? How are these data analyzed? Who are these data reported to? What plans have been made for the long-term storage and review of these data?

10. Emergency Response Team. It is likely that a well-prepared and trained emergency response team located at the terminal at the time of the accident could have done much to contain the spill early. We believe that this team should be staffed by experienced cleanup workers who have received extensive hazardous waste operations training, and are qualified to assure immediate containment, act as trainers for incoming cleanup workers, and serve as foremen for cleanup crews during containment and cleanup. We also feel strongly that the team should not be operated under the control of the oil companies or Alyeska. The state should require the establishment of such a team, and spell out the qualifications expected from members of the team.

In summary, we have major reservations about how the Department is responding to Exxon and its contractors, and the effects that this response may have on ensuring full health protection to the workers. Few will argue that the oil spill is among the most dangerous workplaces anywhere today, and we all have a great responsibility towards the workers who are engaged in the cleanup.

From the start we have worked hard to facilitate an expedient cleanup. Our members were among the first workers on-site. When health protection became a concern we immediately dispatched a highly qualified public health team and reported back in detail within a week. When training became an issue we immediately offered to make available the considerable training resources of this International Union in hazardous waste control. And throughout this period we have offered your Department our resources and expertise.

We firmly believe that it is in the best interest of everyone--worker, employer and union--that health protection be cooperative. However, it is a fact that in this case the employer can't decide between union and non-union interests. We recognize that much of the proffered help has not been requested, invited or applied. Still, we have felt, and will continue to feel, responsible for our members' health and safety on the job, and this concern extends to all people engaged in the clean-up. Therefore, until there is compelling evidence to feel otherwise, we will continue to urge all levels of government to respond to this issue.

Sincerely,

ANGELO FOSCO
General President

STATEMENT OF ALBERT M. MANVILLE, II, PH.D, SENIOR STAFF WILDLIFE BIOLOGIST, DEFENDERS OF WILDLIFE

Mr. Chairman, Members of the Subcommittee, my name is Albert Manville, I'm senior staff wildlife biologist for Defenders of Wildlife here in Washington, D.C., and I recently returned from a fact-finding trip to Valdez, Alaska, from April 12-17. Thank you for the opportunity to present this testimony today. I also want to thank you for the invitation to testify before this Subcommittee, but because of a previous commitment in California, I am unable to appear in person at this hearing. Please accept my apologies.

I am distressed at reading and hearing some of the overly optimistic accounts of what supposedly is going on in Prince William Sound, the Gulf of Alaska, Cook Inlet, Resurrection Bay, the Alaska Peninsula and elsewhere regarding the oil spill and its impacts on fish and wildlife in the area. Four reasons for concern in particular come to mind:

- Exxon's assurances it has done everything possible to fully respond to this spill, as exemplified by statements made to stockholders that everything was done by Exxon at the outset to contain, clean up, and mitigate the spill;
- Exxon's recent statement that it plans to clean only 300 miles of the most heavily oiled beaches, leaving at least 200 of the less-oiled beaches to nature's devices; it plans to incinerate and/or bury reclaimed oiled wastes; and it desires to limit the extent of its liability for fish, wildlife, and habitat restoration;
- headlines such as "Massive Oil Spill in Alaska May Hurt Marine Life Less Than Some Had Predicted";
- and a failure to report the magnitude of this spill, now far outside Prince William Sound.

Allow me to attempt to **set the record straight**. In my opinion--following nearly a week's observation from the air, from ship and small craft, and on shore, plus numerous interviews and meetings-- this is the environmental disaster of the century, at least for North America.

What we have, first, is:

- an oil spill that has lasted--and will last--much longer than anyone had anticipated it would take to clean it up, if indeed we are capable of ever cleaning it all up,

- an oil spill that has covered far greater an area than expected--and is growing daily,
- and an at-sea and on-shore cleanup effort that still is far from being fully implemented--that is, if Exxon is ever capable of effectively implementing it.

In addition, this spill has not behaved like others in the past. The deadly aromatic hydrocarbon solvents--benzene, toluene, xylene, naphthalene, and others--remained within the crude oil for weeks rather than days (except naphthalene, which may stay within tar balls for a year or longer). The enamel-like crust, which normally begins to occur on beaches shortly after the spill, took weeks to begin to form. Tar balls took far longer to develop than "normal." And even now the mousse and sheen continue to spread.

Let's look at the **map** for details (Figure 1A and 1B). What started out on Bligh Reef in Prince William Sound (PWS) has now been verified to have spread well over 500 miles to near Cape Providence on the Alaska Peninsula, an area due west of the southwest shores of Kodiak Island. In short, this oil continued to move far outside Prince William Sound, precipitously close to Kodiak Island--perhaps the richest fishery in the world--even moving toward Bristol Bay--Alaska's $1 billion fishing area.

Before this catastrophic oil spill, south central Alaska was truly an environmental gem with breathtakingly spectacular vistas; absolutely gorgeous coastlines; stunning fjords; and a bird, mammal, fish, and invertebrate population second to none--one of the richest marine ecosystems in the world.

Next to oil and fishing, **tourism** is the third largest industry in Alaska financially, but the largest employer in the State. **Fishing**, the second most lucrative industry and number two regarding employment, brought in an estimated $100 million alone to PWS annually.

Of the **30 species of birds**--waterfowl, seabirds, shorebirds, and eagles--which pass through the Sound, 300,000-500,000 made this either their summer home or year-round residence. Another 1 million birds go through the Sound from the Copper River Flats, and an additional 10 million shorebirds migrate through the area. These migrations--the largest in the world--are now in full swing. If the weather is good, the birds during their migration **may** overfly the Sound and other areas outside the Sound that either have floating oil or oiled beaches. But, if the weather deteriorates--as it often does--it's far more likely for the birds to seek refuge in the Sound or on its shores, become oiled, and die. It doesn't take much oil to disrupt the insulating quality of bird feathers, resulting in hypothermia and death. If a bird ingests oil, it will likely die, or if it is captured for rehabilitation, it may have to be euthanized. Only gulls seem to actively avoid oil-tainted water or oiled shorelines.

Prince William Sound **was** home to an estimated 10,000-12,000 sea otters overall--highly intelligent, extremely vocal, and tremendously appealing marine mammals--5,500 estimated to live in the western half of the Sound before the spill. Of these, three-quarters, or 4,100-some "at risk in the impact area" as of April 26 have suffered, are dead, or continue to suffer terribly because of the oil spill. The statistics, presented by the U.S. Fish and Wildlife Service at the April 14 evening Science Meeting in Valdez, were sobering: As of that date, 295 otters were seen dead, representing nearly 10 percent of the total population "at risk" in the Sound on that date. The biologist stated at that meeting that nearly 100 percent of all the otters in the "impact area" then contaminated by the oil were likely already dead. **Simply put, most of the otters in the oiled portions of Prince William Sound had probably been killed by the oil or its toxic aromatic by-products.** As of April 26, 391 were reported dead. At a press conference Defenders of Wildlife gave on April 27, we called for immediate installation of protective booms and stationing of skimming equipment at Port Nellie Juan and Port Wells in western Prince William Sound, Port Chalmers and Stockdale Harbor on northeast Montague Island, and Orca Inlet, if necessary. To our knowledge, none of the boom has been put in place.

Prince William Sound is also home to hundreds of **Steller's sea lions**--the largest of the sea lion species in the world. There is particular concern about the effects of aromatic hydrocarbons from the oil impacting these mammals, not to mention their ingestion of oil-tainted fish or shellfish. The Steller's sea lion has been proposed for listing as a "depleted species" under the Marine Mammal Protection Act. At least two had been found dead as of April 26, although cause of death was undetermined.

Five pods of **killer whales** make Prince William Sound their home, as do **harbor porpoises** and **Dall's porpoises**. What impacts the oil will have on these marine mammals we don't yet know. Endangered **humpback, California gray and minke whales** also make the Sound their summer home. As early as April 13 a humpback whale was seen in the Sound in association with floating oil. Concern was raised about the whales breathing the toxic aromatic hydrocarbons as well as the impact of crude oil on their baleen. No studies have yet been conducted on the impacts of crude oil on these species. Since humpback and gray whales feed solely during the summertime in these waters, contamination or even ruination of their food resources bodes poorly for these species, especially for the humpback whose calf survival is diminishing. Of special concern are the effects of oil on herring and krill upon which the whales feed.

A native Alaskan seal hunter, Paul Comcoff, from Evans Island, sent a telling letter to Alaska's Department of Environmental Conservation (DEC). Paul was sickened by the oiled beaches, dead wildlife, and habitat ruination on his home island. On visiting a favorite seal haul-out area normally inhabited by some 100 harbor seals, he saw only two there, both apparently blinded by the aromatic hydrocarbons from the crude oil--including highly toxic benzene, xylene, toluene, naphthalene, and others. Did the others avoid the oiled island or were they killed?

Of the 30 species of waterfowl, shorebirds, and eagles "at risk" in the Sound; the Gulf of Alaska; Kenai Fjords National Park; Resurrection Bay; Cook Inlet; Shuyak, Afognak, and Kodiak islands; the Alaska Peninsula; and elsewhere, **19 species had been reported killed or turned in oiled** to the Bird Rehabilitation Center in Valdez as of April 16. Another rehabilitation center is now open in Seward with the capacity of handling up to 3,000 birds. Documented mortality so far has been highest among grebes and common murres, followed closely by cormorants, harlequin ducks, buffleheads, sea gulls, a few bald eagles, and others. Jon Lyman, public information officer for the Alaska Department of Fish and Game, estimates that at best, 1 in 10 dead birds are being found, perhaps as little as 1 in 30. As of April 26, nearly **4,000 birds were reported dead, including 9 bald eagles.** Dawn dish detergent has been found best for cleaning both birds and otters. Even Redkin hair conditioner showed highly promising results when put on de-oiled otters that had lost all their natural body lanolin.

Although the rehabilitation work is important, had it been **massively mobilized earlier**, many more birds and mammals could potentially have been saved. As it stands now, the unfortunate fact of the matter is that ongoing wildlife rehabilitation is probably more for the public's benefit than for the wildlife's. According to David Grimes of the Cordova Fishermen's United, rehabilitation probably won't affect more than one percent of all the oiled wildlife. The vast majority of the wildlife have either already died or they will continue to die as they contact floating oil, oiled beaches, eat contaminated foods or oil, or are impacted by any existing aromatic hydrocarbons. Figures 2 and 3 appended are photographs of an oiled, dead common loon and three harlequin ducks, respectively.

Finding dead fish and wildlife has been extremely difficult, in major part because of scavenging, including scavenging by **bald eagles** and sea gulls--both of which also may die after eating oil-tainted carcasses--and a growing concern over the impacts of oil on **brown and black bears** now coming out of hibernation,

ravenously hungry after a long winter sleep and in need of protein and carbohydrates. At least one bear has been reported dead from the effects of oil as of April 26.
Up to 300 **Sitka black-tailed deer** had by April 26 been reported killed by eating oil-tainted kelp during periods of low tide in areas affected by the spill. Even the opportunistic **gray wolf**, if its territory encompasses the shoreline, will spend time scavenging for food. It, too, is therefore at risk. Porcupines and muskrats also have been reported killed by the oil.

But again, of special concern are the impacts of oil on **sea otters**. The mortality rate has been far greater on these mammals than **ever** reported from **any previous** oil spill. Aside from the deadly hypothermic effect of even a light sheen of oil on the otters' fur plus deaths attributed to otters ingesting oil while preening, aromatic hydrocarbons are wreaking utter havoc with internal functioning--totally destroying livers, causing emphysema, breakdown of the immune system, aplastic anemia, leukemia, bone marrow toxicity, and blindness. Add to this the extreme difficulty of finding a dead otter. If it's oiled and unscavanged, it may simply appear like another rock on the beach. If it's floating, only the tip of the nose may show. Dead otters, seals, and sea lions usually sink.

The impacts of the oil on the **fishery** are only beginning to be felt. Not only is oil a severe risk to five species of salmon soon to begin migrating in June, but tens of millions of pink salmon fry are now being released into the Sound by four salmon hatcheries, one the largest in the world. Also at risk are halibut, as well as commercially harvested herring roe from a so-called "pounding" (herring are released into enclosed pens of kelp upon which the herring lay their eggs, then the fish are released) and the wild harvest of herring spawn. From the "pounding" industry, herring roe on kelp brings from $18- $50 per pound on the Japanese market.

The cleanup effort, although now beginning to pick up six weeks after the fact, is still far too slow, disorganized, and haphazard. The question still remains: Who is in charge of the cleanup? And of major concern: Are the cleanup efforts accomplishing much, if anything?

While I was there, little if any progress was being made, and reports from Alaska last week indicate minimal cleanup success--less than a mile of beach. Both the cold water and warm water pressure cleaning tests on Smith Island on April 16 were unacceptable to the National Oceanic and Atmospheric Administration. Although the Coast Guard apparently as early as March 25 requested the Navy to provide skimming equipment, not until the week of April 24 did the final complement of 20 additional Navy skimmers actually arrive on the scene. A Navy amphibious transport dock ship that will accommodate 800 additional personnel arrived in Valdez April 25, as well as a host of various landing craft, small craft, air support, and additional containment boom. Had Exxon, fully recognizing its inability to clean up let alone contain the oil at the outset of the spill, called for help, the spill might have been contained to six square miles. But with no contingency plan, little if any cleanup capability, and a cavalier attitude about dealing with the spill, things got way out of hand, and the spill spread to an area more than 3,000 square miles in size. Finally, President Bush called for military help--two and one-half weeks after the fact. By then, the cleanup effort was "a day late and a dollar short."

Meanwhile, Exxon's cleanup efforts have been anything but fast-paced. Only two "super-sucker" oil-sucking vessels are in south central Alaska at present. Why hasn't at least one of the five additional "super-suckers" from the North Slope been brought down to the Sound? Had this equipment been dispatched immediately, much better containment could have been realized.

While Alaska's Governor Steve Cowper has been to the Sound on five occasions, not once has President Bush been there. We'd like to see Mr. Bush take as much interest and show as much concern as has Governor Cowper. Mr. Bush needs especially to see the mess Exxon's oil has created on the beaches. He needs to walk on these beaches and not simply fly over them--to "get down and dirty." He needs to visit the bird and otter rehabilitation centers, see the dying wildlife, talk with the veterinarians and volunteers. Lastly, President Bush needs to go to the morgue, see first-hand the thousands of dead animals.

The cleanup effort should be targeted at three major approaches: get the remaining oil, tar, mousse, and sheen out of the water; boom off those beaches still at risk from oil and attempt to remove those wildlife still at risk--including greater emergency training by the Fish and Wildlife Service of personnel interested and capable of capturing sea otters; and begin the massive beach cleanup effort in earnest.

Although Coast Guard Commandant Adm. Paul Yost would like to see steam-cleaning as the tool of choice for beach cleanups, since this technique may result in additional threats to fish and wildlife in the water, I suggest that a product called **BioVersal** be tested in Alaska. BioVersal is manufactured by a West German company. It is a detergent-like substance that makes oil palatable to naturally existing bacteria; degrades oil both in the water, on beaches, and below the surface within 10 days in cold water environments; and is safe to use in water to be treated for human drinking purposes. West Germany's Institute of Hygiene--the counterpart of our Environmental Protection Agency--has approved it for use. It at least deserves testing. Although BioVersal appears to be environmentally benign, steam-cleaning is not: It kills everything on the beach, and may not reach depths of up to two feet where the oil has penetrated into the beach substrate. Bioversal was most recently tested on April 7 on oil-soaked soil in West Germany, where it proved 95 percent effective. Mr. Chuck Wilde, BioVersal representative in Washington, D.C., may be reached at (202) 387-8752 or (703) 250-4006.

Whether we will be able alone to take once pristine beaches and return them to their pre-spill state--not to mention bring the fish and wildlife back--remains a major question. Regardless, the burden of this disaster must without question fall on Exxon's and Alyeska's shoulders--not on the American taxpayer, nor by increased prices at the gas pump. Like the T-shirt says, "An ounce of protection is worth 11 million gallons of cure." We also must not forget the enormity of this catastrophe, including heavily oiled beaches at the beautiful Kenai Fjords National Park, Katmai National Monument, Alaska National Maritime National Wildlife Refuge, Kachemak Bay, Resurrection Bay, and the Alaska Peninsula, not to mention the continued impacts on fish and wildlife.

Although the war on preventing unnecessary damage from the oil spill is largely lost, a few skirmishes can still be won by a massive booming effort along with a full-scale attempt to remove as much of the remaining floating oil as possible. With a short summer and unpredictable weather, beach cleanup efforts must begin in earnest. Most heavily oiled beaches should be hot water or perhaps even steam-cleaned only if they can be double-boomed and skimmed concurrently. BioVersal should at the very least be tested. President Bush needs to see first-hand this catastrophe. Things are dismal up there. The body counts of more than 458 otters and 4,000 birds represent only the tip of the iceberg. We may actually be seeing as few as 1 percent of the fish and wildlife mortalities. We've seen some of the short-term effects of this disaster, but we have little or no idea what to expect from the long-term impacts--ecosystem alteration, long-term toxic contamination, oil deterioration in cold water, and other effects. The spill has gone far further than is being reported. Truly this is an environmental disaster of catastrophic proportions.

Several concerns need to be evaluated about both Exxon's May 1st "Waste Management Scoping Plan" and the May 1st "Shoreline Restoration Plan." In the "Waste Management Plan," Defenders has severe reservations about both incineration and landfilling of solid oily material and debris from the oil spill, especially given Exxon's existing dismal track record. We are very concerned about resultant toxic ash, heavy metal contaminants, particulates, dioxins, etc., if oiled solid wastes or plastic materials (booms, absorbent materials, etc.) are burned. We are especially concerned about groundwater contamination and leaching from landfilling operations. It is our feeling that solid oily materials and debris from the oil spill should be sent to facilities outside Alaska where they can be re-processed by removal of oil from the waste by chemical solvents--not by incineration or landfilling.

Regarding the "Shoreline Restoration Plan," the Alaska Department of Fish and Game has called for booming and cleanup efforts for harbor seal and Steller's sea lion haul-out areas, with several seal haul-out areas targeted. Yet, due to Exxon's inabilities, the window of opportunity for cleanup is rapidly approaching a close--because pupping season extends from May 10 to June 30, and pups are particularly vulnerable to oil.

First, Exxon claims that "men and materials can be mobilized to meet plan requirements and [Exxon has] demonstrated that the equipment will work" (p. 9). This we at Defenders doubt. Exxon also claims that "additional equipment and manpower have been employed to accelerate shoreline restoration in areas of the Kenai Peninsula." That claim is also doubtful. And what about the Alaska Peninsula, Shuyak, Afognak, and Kodiak Islands, Cook Inlet, and elsewhere?

We are especially concerned about the use of toxic dispersants such as COREXIT 7664, "which makes dispersed oil more toxic than COREXIT 7664 itself" (p. 23). All a dispersant does is send the oil to the ocean bottom where it contaminates shrimp, crabs, clams, mussels, limpets, halibut, cod, and a host of other organisms.

Contrary to Exxon's desires (p. 34) we feel that every square foot of oiled beach must be cleaned, whatever the time, manpower, and economic cost involved. Thus our request for a $1 billion per year trust fund for five years. Exxon's "slack and slovenly management" (Washington Post story) resulted in this catastrophe, and the burden now rests on their (and Alyeska's) shoulders--plus the shoulders of the stockholders--to clean it up.

Although we're not sure that Exxon even has the capability--nor did it ever have the desire--to clean up this mess, the company must be required to demonstrate a first-rate effort of good faith and intent. On this score, Exxon so far has dismally failed.

Albert M. Manville, II, Ph.D.
Senior Staff Wildlife Biologist
Defenders of Wildlife
May 10, 1989

Figure 1 A. Oil spilled from Exxon Valdez in Prince William Sound.

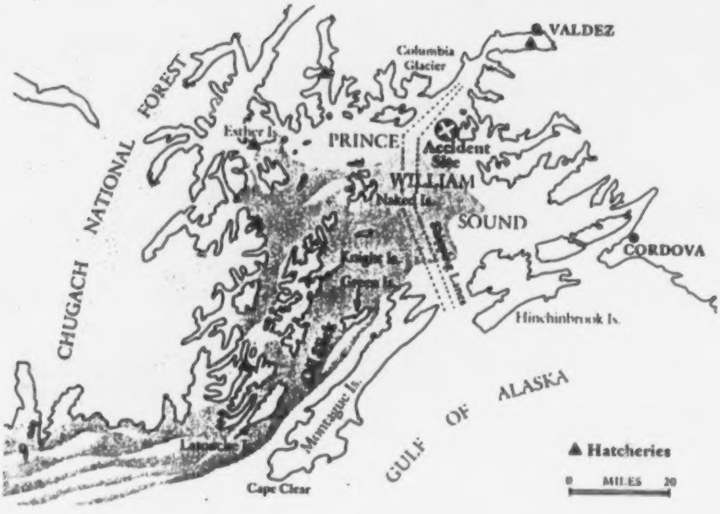

Figure 1 B. Overall spread of oil in south central Alaska.

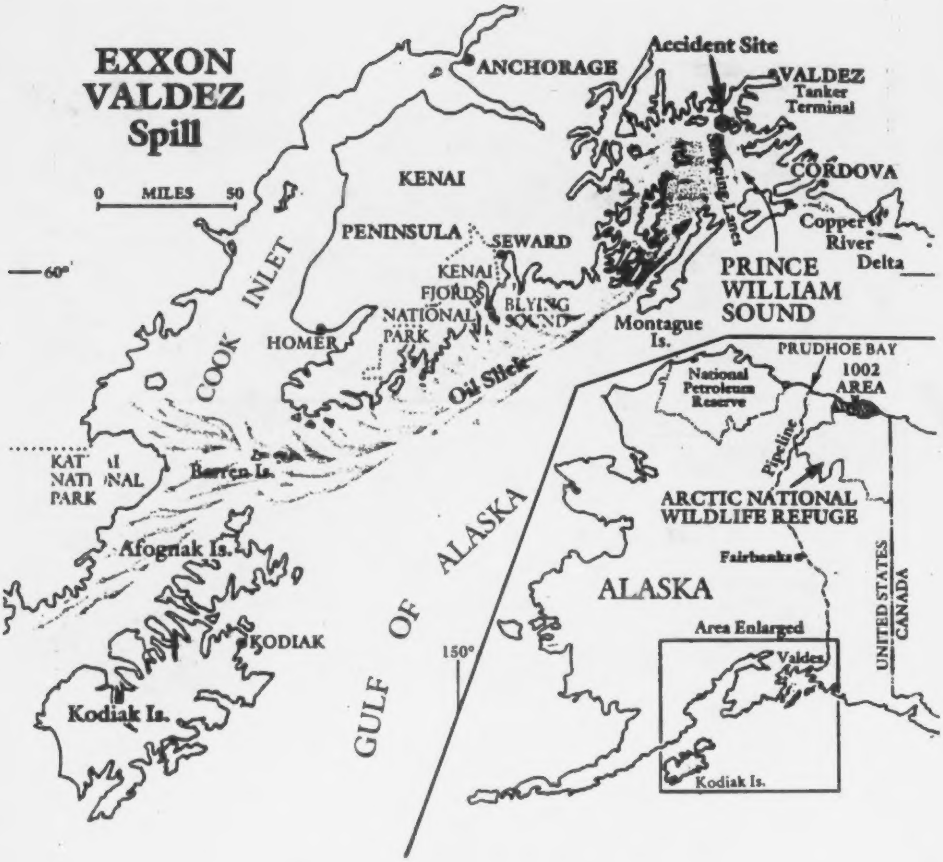

Figure 2. Dead common loon, Knight Island, Prince William Sound, Alaska, April 13, 1989. (Photo by Dr. Albert M. Manville, Defenders of Wildlife)

Figure 3. Three dead harlequin ducks, Prince William Sound, Alaska, April 15, 1989. (Photo by Dr. Albert M. Manville, Defenders of Wildlife)

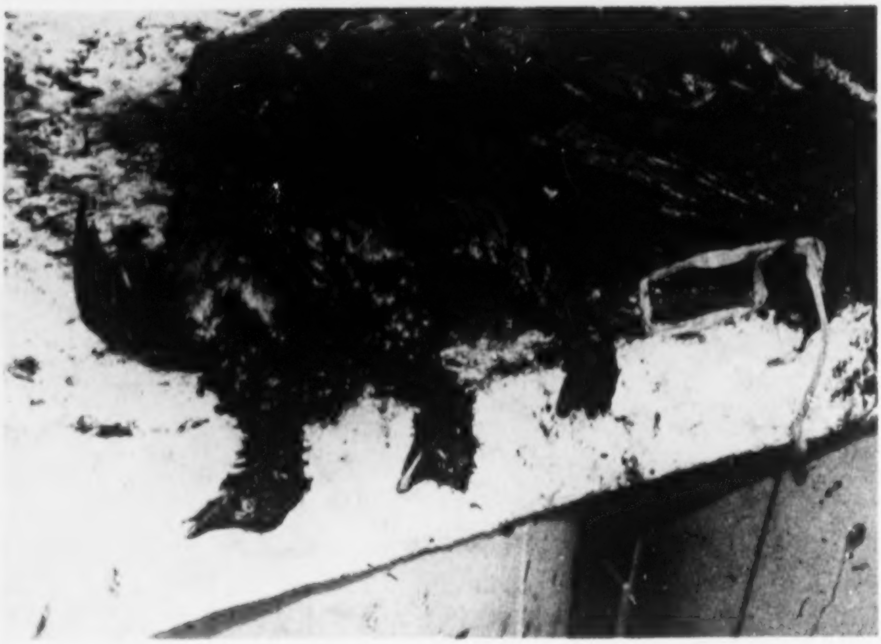

Figure 4. Heavily oiled beach on Knight Island. Denby Lloyd, special assistant to Alaska Governor Steve Cowper, collecting sample of oil, April 14, 1989. (Photo by Dr. Albert M. Manville, Defenders of Wildlife)

STATEMENT OF EDGAR BLATCHFORD, CHAIRMAN, CHUGACH ALASKA CORPORATION TO THE NATIONAL OCEAN POLICY STUDY SUBCOMMITTEE COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION U.S. SENATE

MAY 10, 1989

Chugach Alaska Corporation (CAC) is one of the thirteen regional corporations formed under the terms of the Alaska Native Claims Settlement Act of 1971 (ANCSA). It belongs to approximately 2,000 Native shareholders who trace their ancestry to the central Gulf of Alaska coast including Prince William Sound and the Kenai Fjords. The Native villages of Chenega Bay, English Bay, Eyak, Port Graham and Tatitlek and the cities of Cordova, Seward, Valdez and Whittier lie within the Chugach Native Region. The company's major operations and plans are based on the production and processing of the natural resources on the approximately one million acres of land which were acquired under the ANCSA. These resources include fisheries, timber, tourism and recreation, and minerals. Also around the Sound are cultural resource sites that reveal the archeological history of our ancestors.

The occupation of the Prince William Sound area by the Chugach people dates back well before the Russian-American occupation. Our migration story relates how our ancestors first arrived on Kayak Island by drifting with the north Gulf currents and then circled back along the coast into Prince William Sound and the Kenai Fjords, establishing villages along the way.

CAC has had to struggle to receive its ANCSA lands and to begin to fulfill the promises tendered to it in 1971. The original 1971 settlement was considered so inequitable and shortchanged CAC so badly, that Congress directed a special effort be undertaken to amend the original arrangement so that a fair and just settlement could be realized. (*See* §1430 of the Alaska National Interest Lands Conservation Act, P.L. 96-487). Two more years of difficult negotiations with the U.S. ensued and a new settlement was not reached until 1983.

The 1983 agreement ensured that CAC would obtain prospectively valuable lands in Prince William Sound, including key coastal properties on Knight Island, Latouche Island, and Montague Island. Only in the recent past have land conveyances commenced and title transferred to CAC. Just as the corporation begins to realize value from these lands -- 18 years after ANCSA -- our long-awaited property is befouled by oil from the Exxon *Valdez*.

The effects of the oil spill on our lands will severely alter our management objectives. The contamination does not discriminate among land use and ownership boundaries, but severely restricts, if not prohibits, the use of lands which the government is only now about to convey to the corporations after eighteen years. Questions of damages to the marine subsistence resources, future upland subsistence resources, shoreline, soils and water table by the introduction of hazardous and toxic substances is not known and only beginning to be analyzed. After all these years, are we about to inherit a nest of liabilities instead of a range of opportunities?

One thing is certain: our financial health has been dealt a staggering blow by this event. The spill is forcing us to reevaluate plans and schedule the development of resources spared the contamination for markets which have not been scared away.

In addition, approximately 100 ANSCA §14(h)(1) cultural sites are located in the spill impact zone. The oil has covered and spoiled important artifacts reflecting our heritage. Work crews have disturbed sites attendant to the clean-up and the human interference as well as the oiling have caused significant losses. Our knowledge about the sites is substantially diminished, sites are being unavoidably desecrated, and will never have the same pristine value they once held.

Amid the hue and cry surrounding the spill and its awful effects on the environment and the fisherman, a key fact has been obscured -- that the largest private landowner in Prince William Sound -- CAC -- has suffered grievous harm.

On behalf of our Board of Directors, thank you and your Subcommittee for providing us this opportunity to present this testimony.

physical sciences inc.

10 May 1989

The Honorable John Kerry, Chairman
Senate Commerce Subcommittee
National Ocean Policy Studies

Subject: Laser Ignition of Oil Spills (LIOS) Technology
Exxon-Valdez Oil Spill

Dear Senator Kerry:

We are convinced that had our Laser Ignition of Oil Spills (LIOS) device been deployed during the recent Exxon-Valdez oil spill, the disastrous environmental consequences would have been greatly minimized, and at a fraction of the cost. It is unfortunate that this device that could and should have been available was not available.

As the attached report states, since 1982 a laser system has been under development at Physical Sciences Inc. (PSI) in conjunction with Arctec Canada Ltd. and Aastra Aerospace Inc. under sponsorship of Environment Canada. At a critical point in the development program, Exxon withdrew from the consortium that the Canadian government was counting on for cost-sharing. As a result, the laser ignition system, which PSI has successfully tested and demonstrated in Arctic conditions, is not ready for deployment.

We respectfully urge the Commerce Subcommittee on National Ocean Policy Studies to review the enclosed material. Our hope is that, the next time, we will be ready to utilize this technology.

Robert F. Weiss

Robert F. Weiss
Chairman

research park, p.o. box 3100 andover, ma 01810 tel (508) 475-9030 telefax (508) 475-8359

Background

Since 1982, Physical Sciences Inc. (PSI) of Andover, MA, a 120-employee contract research company, has been developing a novel dual-laser approach to starting oil pool fires from a helicopter, intended to be used in the event of an Arctic maritime oil spill resulting from a shipwreck or well blow-out.

Initial theoretical and laboratory studies demonstrating the feasibility of the technique were performed in 1983 and 1984. In 1985, an outdoor demonstration was performed in conjunction with Arctec Canada Ltd. at their Kanata, Ontario facility in conditions simulating an Arctic environment. That work, along with the preceding research, was published in the journal *Oil & Chemical Pollution* (Vol. 3, p. 355, 1987). Subsequently, PSI worked with Aass Aerospace Inc. of Ottawa to design a helicopter-deployable version of the ignition system and developed plans to assemble it. The plans indicated that assembly, helicopter installation, and testing would cost about $500,000.

Financial support for the initial research and development of this Laser Ignition of Oil Spills (LIOS) device was provided by or coordinated through Environment Canada. Environment Canada also assembled a funding package that, in 1986, was expected to support a helicopter demonstration, but the package relied on a substantial contribution from the oil industry. Unfortunately, because conditions in 1986 apparently rendered Arctic exploration economically unfeasible, the industry concluded that further development of the laser igniter could not be justified and withdrew its support, resulting in the collapse of the remainder of the funding package. Since that time, the US Minerals Management Service has provided some new funding which has been used to assemble and test the optical portions of the helicopter-deployable system. However, resources sufficient for completing a prototype of the device and performing a helicopter test do not seem to be forthcoming.

Some technical details describing the LIOS system are provided in the following discussion.

The Laser Ignition of Oil Spills (LIOS) System

It is commonly recognized that cold, aged crude oil does not burn easily. Specifically, a self-sustaining and spreading fire cannot be established simply by tossing a match onto the oil. To enable us to describe the laser ignition process and system, we first describe the conditions required to start a fire.

A typical pool fire may be described as a volume of cold liquid having at its surface a relatively hot layer from which fuel evaporates and mixes with the air above. This combination of air and fuel vapor forms a combustible mixture. Once ignited, combustion occurs in a very narrow layer located a small distance above the surface of the fuel, and combustion products such as hot soot and gases rise above this zone. As the fire burns, heat is radiated and conducted through the air back to the oil pool, thereby providing the power needed to continue vaporizing new fuel to sustain the fire. **If the fire cannot provide enough heat to replenish that which is transported from the oil surface into the bulk liquid by conduction and convection, then the surface cools, vaporization ceases, and the fire dies.** A self-sustaining liquid pool fire can therefore be established only after several criteria are satisfied:

1) The surface of the liquid must be hot enough to provide a vapor above the surface which, when mixed with ambient air, is combustible.
2) This vapor/air mixture must be heated briefly to a temperature that is high enough to initiate combustion.
3) The fuel must not transport more heat into the liquid volume than a nascent flame is capable of supplying back to the liquid surface.

Cold, aged crude oils fail to inherently satisfy any of these criteria; that is why they don't readily ignite. To generate a combustible vapor mixture, the surface of the liquid must be heated to its flashpoint temperature, typically as high as 100° C. To ignite the vapor mixture, it must be exposed to a heat source such as a spark or a match, of 700° C or more. The third criteria requires that the liquid absorb a certain amount of energy before the fire is ignited.

Laser beams, which act as remote infrared energy sources, are used to satisfy each of these requirements in the Laser Ignition of Oil Spills (LIOS) technique. By selecting appropriate combinations of laser power, intensity (power/unit area), and irradiation time, ignition of sustained and spreading fires on the surfaces of cold, aged oil pools has been accomplished. The powers and intensities delivered by the laser beams are controlled by the choice of lasers and the use of focusing or defocusing optical components. Two lasers are used in tandem. A moderate (< 1000 Watt) continuous-wave (CW) laser continuously irradiates or "preheats" a small portion of the oil surface thereby establishing the thermal and flow fields required for vapor production and flame survival, satisfying criteria 1 and 3. Concurrently, a high power (7 MW) short-pulsed (2 μs duration) focused laser fires once per second. By focusing this pulsed laser beam at the surface of the pool, its energy is absorbed in the vapor above the oil thereby generating temperatures high enough to initiate the combustion reaction, satisfying criteria 2. When conditions are ripe, the vapor mixure ignites and initiates a self-sustaining fire. Carbon-dioxide (CO_2) lasers have been used exclusively in this technique because of their advanced state of development, energy conversion efficiency, availability and cost.

As described previously, this dual laser technique has been tested extensively, both in the laboratory and outdoors. For the outdoor tests , the two lasers were housed in a building while their beams were directed out of a window and onto pools of oil that was poured into a 2 meter square steel tank. The oil was previously weathered to simulate conditions that would be encountered approximately one week after a spill in an Arctic environment. It was poured onto ice water to a thickness of about 1 cm and was usually infested with and surrounded by additional ice and water. At ambient temperatures as low as 0° C (freezing) and with winds as strong as 20 km/hr (12.5 mph), fires were consistently started with less than 60 seconds of laser exposure. The fires inititially were about 10 cm in diameter but spread at a rate of 2 cm/s to include the entire oil pool. With about 10 minutes of burning, the fires typically consumed more than 90% of the oil before dying, leaving behind only broken regions of heavy tar, most of which rapidly sank to the bottom of the tank.

After completion of this outdoor demonstration, the helicopter-deployable version of the LIOS system was designed with the following features:

1. Can be installed in a Sikorsky S61 or comparable helicopter without affecting air-worthiness or safety;
2. Incorporates a CW CO_2 laser producing up to 1000 W of power and irradiates the oil pool with the required preheating intensity of 5-10 W/cm^2;

3. Incorporates a pulsed laser which is focused sufficiently to ignite, from a distance, fires on preheated oil pools;
4. Holds the laser beams on target despite helicopter movements and vibrations;
5. Provides adequate power and cooling capability to operate all of the system components; and
6. Can be operated by an aircraft maintenance technician.

Details of the design are reported in a paper entitled "Laser Ignition of Arctic Oil Spills: Engineering Design" by M. B. Frish, H. Scholaert, et al, in the *Proceedings of the Ninth Arctic Marine Oilspill Program Technical Seminar,* 1986. These proceedings are available from Environment Canada.

Since completing this design, the optical system for focusing the pulsed laser beam onto the surface of the oil has been assembled, tested, and shown to function as designed. In addition to meeting the requirements for achieving ignition, the optical system design satisfies certain economic constraints as well as limitations imposed by the CW laser which force the LIOS device to operate from a helicopter hovering at a fixed altitude of about 20 m above ground level. Individual oil pools are to be selected by pointing the lasers over depression angles between 0 and 49 degrees, corresponding to slant ranges between 20 and 30 m. Therefore, the pulsed laser focusing system incorporates a capability to alter its effective focal length through these ranges. Furthermore, a means for the operator or automatic controller to determine when the laser is properly focused is included.

Physical Sciences Inc., with limited funding from the US Minerals Management Service coordinated through Environment Canada, is currently assembling a portion of the airborne laser pointing apparatus. We estimate that a helicopter-deployable system could be demonstrated within a year, if adequate funding was available.

STATEMENT FOR THE HEARING RECORD
FOREST SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

Committee on Commerce, Science, and Transportation
and the
National Ocean Policy Study
United States Senate

Concerning Activities in Response to the Alaska Oil Spill

May 10, 1989

The Department of Agriculture is represented on the National Response Team. The Forest Service has the lead role within the Department and has actively participated in the oil spill response since the spill occurred March 24th.

Forest Service personnel assigned to the Regional Response Team were activated immediately as part of the National Response System. We have been working very closely with other Federal and State agencies whose primary objectives are to: (1) protect critical resources, particularly marine and terrestrial species, recreation and cultural resources, (2) maximize recovery of free floating oil, (3) monitor shoreline cleanup, and (4) conduct a damage assessment.

Prince William Sound is entirely within the boundaries of the Chugach National Forest, and most of the land impacted by the oil spill is within the Nellie Juan-College Fiord Wilderness Study Area designated by the Alaska National Interest Lands Conservation Act (ANILCA).

The Forest Service has, and will continue to have, a major interest in the effects of the oil spill, since 80 percent of all lands within the Sound are administered by the Chugach National Forest. The Forest Service, in cooperation with other agencies, has provided on-site permits for the use of National Forest lands for emergency operations and for telecommunication sites. We also assisted in planning shoreline clean up methods, and we are evaluating and advising on the efficiency of those methods and their effects on natural and cultural resources.

The Forest Service headquarters for the incident is located in Valdez. A 15-20 person team of archaeologists, wildlife biologists, and boatsmen, as well as support, communication, and public affairs specialists are working under the leadership of John Knorr, the Forest Service Incident Commander. The team has been on the scene since March 28 and is expected to remain in Valdez through September.

Two boats, the 60-foot Tongass Ranger and the 60-foot Ocean Ranger, have been employed by the Forest Service to serve as berthing and transportation for interagency crews inspecting the oil spill cleanup. These five-person crews include personnel from the United States Coast Guard, USDA Forest Service, U.S. Fish and Wildlife Service, Alaska Department of Environmental Conservation, and Alaska Department of Fish and Game. A Forest Service administered public recreation cabin has been set aside for use by interagency personnel involved in the cleanup. The cabin is located on Green Island within Prince William Sound and provides a convenient headquarters for personnel working in the area.

Courses in water, shore, boat, aviation and bear safety are being taught by Forest Service personnel. This training is available to all Federal and State agency personnel involved in the cleanup effort.

The three Federal trustees for Natural Resources (Department of the Interior, Department of Commerce [National Oceanic and Atmospheric Administration], and the Department of Agriculture) have developed an agreement which sets the framework for conducting damage assessments pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 USC 9601 et seq.) and the Clean Water Act (CWA) (33 USC 1251, et seq.). The Forest Service is designated as USDA's representative to implement the agreement.

The Forest Service is an active participant in efforts to assess the short- and long-term damage to the environment, including wildlife and fish, recreation, soils, water, subsistence, cultural resources, timber and other resources affected by the oil spill. EXXON has agreed to pay up to $15 million of initial costs forimpact assessments under a Memorandum of Agreement among Exxon, the State of Alaska, and the United States through the Department of the Interior, the Department of Agriculture, and the Department of Commerce. The State and these three Federal departments have each received a $2 million payment ($8 million total) to begin covering these costs.

We also have authority to accept funds from Exxon for the cleanup response under the Granger-Thye Act of April 24, 1950 (16 USC 572), and the Cooperative Funds Act of June 30, 1914 (16 USC 498). Using this authority, the Chugach Forest Supervisor signed a collection agreement with Exxon on April 7.

The Forest Service is pursuing opportunities to conduct followup research on the effect of the oil spill on the Prince William Sound ecosystems. We are a participant in the research plan prepared by the National Ocean Pollution Policy Board. As part of this plan, the Forest Service will conduct research on the effect of oil on salmon spawning areas in the freshwater and intertidal wetlands, the effect of oil on beaches where the oil has been deposited by high tides and wind, and the effect of oil on animals like eagles, bear, and deer which have been feeding in the intertidal zone where their food sources are exposed to oil.

The Department of Agriculture provided information for and participated in the preparation of the 30-day Report to the President concerning the oil spill.

We would be pleased to provide additional information or respond to questions at the request of the Committee.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

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SEP 26 1989

Honorable Ernest F. Hollings
Chairman, Committee on Commerce,
  Science, and Transportation
United States Senate
Washington, D.C. 20510-6125

Dear Mr. Chairman:

As requested in your letter dated June 7, the U.S. Fish and Wildlife Service has prepared the enclosed responses to the four questions Senator Danforth submitted for inclusion in the record of your May 10 hearing on the Alaska oil spill.

Sincerely,

JFSpagnole
James F. Spagnole
Legislative Counsel

Enclosure

Responses to Questions Submitted by Senator Danforth

Question: (1) How much money has your agency spent on the spill so far that would otherwise have been spent for other programs in your budget? How much of that money has been reimbursed by Exxon? What are you going to do to fund continued damage assessment and other efforts relating to the spill and the other programs for which you are responsible?

Answer: Through July 1989 the various bureaus and offices of the Department spent approximately $10.1 million on actions related to the Price William Sound oilspill. We estimate a total of approximately $16.2 million will be spent through the end of the fiscal year, including funding for natural resource damage assessment projects now underway that will continue through February 1990. Of these totals, the FWS share of the $16.2 million is $8.1 million, including $6.0 million for damage assessment projects.

Funding for the Department's costs, including those of FWS, has come from four sources: base salary and other costs were covered through regular 1989 appropriations (total $2.7 million, FWS $1.5 million); Interior's share of $15.0 million provided by Exxon for damage assessment (total $2.0 million, nearly all FWS); funds provided in the 1989 supplemental appropriation, P.L. 101-45 (total $6.3 million, FWS $4.6 million); and emergency transfers under the authority of section 102 of the 1989 Interior appropriations act, as amended by the 1989 supplemental appropriations act (total $5.0 million; FWS none). The 1989 supplemental contained $7.3 million, and the Department has reserved $1.0 million that amount for contingencies and future costs.

The above funding covers all 1989 costs. No significant costs are expected in 1990 except for continuing damage assessment activities. All current assessment projects are funded through February 1990. At that time, decisions will be made on which projects to continue into the next field season, and on project funding.

Question: (2) Did representatives of the FWS comment on the contingency plan for Prince William Sound? If so, what were your comments, to whom were they submitted, and what was the response? Do you feel that you need a greater role and more authority in the review process?

Answer: Representatives from the Service commented on and provided information for the Prince William Sound Oil Spill Contingency Plan (Plan). Comments were either submitted to the Department of the Interior's Alaska Pipeline Office, which has been disbanded, through its advisory Joint Fish and Wildlife Advisory Team, or to the U.S. Coast Guard directly. The Team was composed of biologists from the Service, National Marine Fisheries

Service, Bureau of Land Management, and the Alaska Department of Fish and Game. The Team's primary mission was to assure the protection of fish and wildlife resources during pipeline construction. Its primary mode of operation was as an advisor to the Alaska Pipeline Office's Authorized Officer and State of Alaska Pipeline Coordinator, who had the responsibility for enforcing pipeline construction right-of-way agreements and stipulations.

The Team, in a July 2, 1976, memorandum to the Alaska Pipeline Office, stated that the Alyeska Pipeline Service Company must assure monitoring agencies that there will be trained crews on hand at all times who can use oil spill equipment properly. The Team also stated that crews should have ample experience from practice sessions and be able to use all of the equipment available to them, which also should be in proper working order at all times.

A December 7, 1976, memorandum from the Team to the Alaska Pipeline Office officially conveyed the Team's comments on Alyeska's Valdez Marine Terminal Oil Spill Contingency Plan. Comments concentrated on the Plan's biological aspects, in addition to its general organization and format. The Team suggested that a review of response time, using available equipment under various circumstances, must be made in order to determine the adequacy of the Plan's logistics. The Team also suggested that organizational difficulties existed which needed to be cleared up. In turn, the Alaska Pipeline Office significantly edited the Team's comments and sent a formal response to Alyeska on January 24, 1977.

On February 3, 1977, the Service provided the Team general and specific comments on the Prince William Sound Oil Spill Contingency Plan, which the Team forwarded to the Alaska Pipeline Office. In general, the Service believed that the information contained in the Plan was important but would not be useable in the field. Specifically, the Service recommended that seabird and marine mammal staging areas and breeding colonies should be included as exclusion sites (i.e., areas to be boomed off and/or heavily protected) and listed in the final plan. The 1980 Plan does not list seabird colonies as exclusion sites but does list them for information purposes. Furthermore, Service-recommended exclusion sites at Orca Inlet, Orca Bay, the Copper River Delta, and the tidal flats and barrier islands from Controller Bay to Orca Bay are not listed as exclusion sites.

At a May 6, 1977, meeting the Alaska Pipeline Office agreed with U.S. Coast Guard representatives that response would be too slow from Valdez if a tanker incident did occur in the Sound and, therefore, response equipment should be permanently stationed at locations within the Sound (Port Etches and Bligh Island.) Each barge would contain enough boom to surround two of the largest tankers in the trade, dispersants, skimmers, a heli-pad, howser boats, pumps, and messing/berthing facilities. Thus, these items would be available for an immediate response within the Sound and the equipment at Valdez could be used as backup. Also in agreement was the concept of placing permanent boom anchor points to moor exclusion booms in sensitive fish and wildlife areas. It was agreed at the meeting that the U.S. Coast Guard would write the Alyeska Company and set forth the agreed items.

On June 28, 1977, the Alaska Pipeline Office informed the U.S. Coast Guard that it approved the March 1977 version of Alyeska Pipeline Service Company's Port Valdez and Prince William Sound Oil Spill Contingency Plan, and requested that an Alaska Pipeline Office observer be able to witness oil spill control drills for Valdez Arm and Prince William Sound.

The Service provided the U.S. Coast Guard information on biological resource values in Prince William Sound relative to potential oil spills on September 1, 1977. Provided was a series of charts showing biologically sensitive areas in Prince William Sound on a temporal and spatial basis. The information was to be used to determine the best strategies for deployment of oil spill exclusion and cleanup equipment in order to protect areas of high biological values.

In conclusion, the Service's only avenue for input on the Plan was through the Team and U.S. Coast Guard. No comments or negotiations were held with Alyeska directly. Thus, the Service's full potential to influence the contents of the final plan was diminished. Current National Response Team and Oil Spill Contingency Plan development procedures allow the Service greater input.

Question: (3) I understand that on April 5 you asked representatives of Exxon to construct an otter rescue center in Seward, and that you repeated that request several times thereafter. How many days elapsed before Exxon responded to your first request? How many days elapsed before the center was completed and fully operational?

Answer: On April 7, 1989, the Service asked Exxon to construct a sea otter and bird cleaning and rehabilitation facility in Seward. Exxon assured the Service that the facility would be constructed. Exxon's contractor (VECO) stated that a facility could be ready to receive animals within 3-4 days. The Service's request was restated to Exxon on April 17, April 19, and April 20. Exxon announced on April 21 that construction would begin. Fourteen days had elapsed before Exxon definitively responded to our first request to construct a sea otter rescue center in Seward. The rescue center became partially operational on May 7, 1989, 32 days after the Service's initial request and fully operationally on May 11, 1989, 34 days after the Service's initial request. The rescue center was completed on May 15, 1989, 38 days after the Service's April 7, 1989, request.

__Question__: (4) Your role in the response efforts includes an advisory one of providing advice about deployment of personnel and equipment, critical areas, and priorities for attention. Have any of your recommendation to either Exxon or the Coast Guard __not__ been adopted and implemented? If so, please specify those recommendations and the reasons, if any, that you were given by Exxon or the Coast Guard for rejecting your recommendations.

__Answer:__ To date, all Service recommendations made either to the U.S. Coast Guard or Exxon have been adopted and implemented. The Service's recommendations have concentrated on its trustee responsibilities for sea otters, National Wildlife Refuge lands, raptors, and other migratory birds. In addition, the Service continues to be involved in monitoring cleanup operations, providing advice to Federal and State agencies about environmentally sensitive areas, and assisting in setting cleanup priorities.

(The following information was requested at the April 6th hearing and was received to late to be included in that hearing.)

U.S. Department of Transportation
United States Coast Guard

Commandant
United States Coast Guard

Washington, D.C. 20593-0001
Staff Symbol: G-CC/104
Phone: 366-4280

AUG 31 1989

5730

The Honorable Ernest F. Hollings
Chairman, Committee on Commerce, Science and Transportation
United States Senate
Washington, D. C. 20510-6125

Dear Mr. Chairman:

Attached are Questions and Answers for the Record provided pursuant to your Committee hearing on 6 April 1989, concerning the oil spill in Valdez, Alaska. These questions were forwarded to Secretary Skinner by your letter of May 4, 1989. All responses have been reviewed and approved, as required, by the Department of Transportation, and the Office of Management and Budget.

Please do not hesitate to call if we can provide further assistance.

Sincerely,

for J. A. Fearnow

Thomas J. Schaeffer
Captain, U. S. Coast Guard
Chief, Congressional Affairs Staff
By direction of the Commandant

Enclosure: (1) Qs and As for Senator Ernest Hollings, 1-2
(2) Qs and As for Senator Slade Gorton, 1-2

Copy: (1) Mr. Bob Eisenbud (with enclosures)

RSCST.HOLLINGS.MML 1(a)
06/26/89

QUESTIONS SUBMITTED BY SENATOR HOLLINGS
SENATE COMMERCE, SCIENCE AND TRANSPORTATION COMMITTEE

SENATOR HOLLINGS: Can you describe for the Committee the status of drug and alcohol testing in the merchant marine?

ANSWER: On December 14, 1987, the Coast Guard published final regulations entitled "Operating a Vessel While Intoxicated." These regulations require the commercial marine employer to determine whether there is evidence of drug or alcohol use by individuals directly involved in a marine casualty. Chemical testing of blood, breath, or urine samples may be conducted to assist in this determination.

These regulations also authorize marine employers and law enforcement officers (including Coast Guard personnel) to require chemical testing based on reasonable cause. Reasonable cause exists when an individual is suspected of being intoxicated, or when the individual was directly involved in a marine casualty.

On November 21,1988, the Coast Guard published final regulations entitled "Programs for Chemical Drug and Alcohol Testing of Commercial Vessel Personnel". These regulations require the following testing for drugs: periodic testing of persons undergoing physical examinations in connection with U.S. Coast Guard license or Merchant Mariner's Document applications; preemployment testing of new vessel crewmember; random testing of all permanent vessel crewmembers; and reasonable cause testing of persons suspected of abusing dangerous drugs. The regulations also require the testing for drug or alcohol use following the occurrence of serious marine incidents which involve death, serious injury, or significant property or environmental damage.

The regulations provide for a phased implementation schedule as follows:

1. Large Employers (50+ employees):
   Preemployment testing - by June 21, 1989
   All other testing - by December 21, 1989
2. Medium Employers (11-50 employees):
   Preemployment, reasonable cause, post-casualty testing - by December 21, 1989
   Random testing - by December 21, 1990
3. Small Employers (10 or less employees):
   All types of testing - by December 21, 1990

SENATOR HOLLINGS: Are drug and alcohol tests required of all seagoing personnel?

ANSWER: Periodic, preemployment, random, and reasonable cause testing for drugs is required for all licensed, documented or certificated mariners serving under the authority of Coast Guard issued seaman's papers; and for individuals not holding seaman's papers but who are serving aboard vessels legally required to be operated by licensed/certificated crews. Post-accident testing for drugs or alcohol following serious marine incidents is required for all individuals directly involved in these incidents.

These requirements apply to approximately 120,000 U.S. Coast Guard licensed or documented mariners serving aboard approximately 19,000 commercial vessels. Types of vessels include deep-draft freighters, tankers, and passenger vessels; mobile offshore drilling units; fishing vessels over 200 gross tons; inspected and uninspected small passenger vessels; and uninspected towing vessels.

SENATOR HOLLINGS: Under what circumstances are random drug and alcohol tests to be administered?

ANSWER: Marine employers are required to administer random urine tests for drug abuse at an annual rate of not less than 50%, with every individual having a substantially equal chance of selection. All types of drug testing are required to be conducted consistent with 49 CFR Part 40, "Procedures for Transportation Workplace Drug Testing Programs," which are based on guidelines developed by the Department of Health and Human Services. The regulations provide for a phased implementation in accordance with the schedule previously described.

There are no requirements for random alcohol testing.

SENATOR HOLLINGS: We understand that you are preparing a report on the EXXON VALDEZ spill, to be delivered to the President in 30 days. Can you assure us that the report will be made available to the Committee?

ANSWER: The report to which you refer was delivered to the President on May 18, 1989, by Department of Transportation Secretary Skinner, and Environmental Protection Agency Administrator Reilly. A copy of the report is attached to this response. 1/

1/ The report was not reproducible.

RSCST.GORTON.MMI.1(a)
22 05 89

QUESTIONS SUBMITTED BY SENATOR GORTON
SENATE COMMERCE, SCIENCE AND TRANSPORTATION COMMITTEE

SENATOR GORTON: In light of the fact that the Captain was found to be legally intoxicated, and had a series of drunken driving convictions, would you support applying random drug and alcohol testing to the maritime industry?

ANSWER: We already have in place comprehensive rules for detecting drug or alcohol use in the marine industry. On December 14, 1987, the Coast Guard published final regulations entitled "Operating a Vessel While Intoxicated." These regulations require the commercial marine employer to determine whether there is evidence of drug or alcohol use by individuals directly involved in the occurrence of a marine casualty. Chemical testing of blood, breath, or urine samples may be conducted to assist in this determination.

These regulations also authorize marine employers and law enforcement officers (including Coast Guard personnel) to require chemical testing on reasonable cause. Reasonable cause exists when an individual is suspected of being intoxicated, or when the individual was directly involved in a marine casualty.

On November 21, 1988, the Coast Guard published final regulations entitled "Programs for Chemical Drug and Alcohol Testing of Commercial Vessel Personnel." These regulations require the following testing for drugs: periodic testing of persons undergoing physical examinations in connection with U.S. Coast Guard license or Merchant Mariner's Document applications; preemployment testing of new vessel crewmembers; random testing of all permanent vessel crewmembers; reasonable cause testing of persons suspected of using dangerous drugs. The regulations also require the testing for drug or alcohol use following the occurrence of serious marine incidents which involve death, serious injury, significant property or environmental damage.

The regulations provide for a phased implementation schedule as follows:

1. Large Employers (50+ employees):
    Preemployment testing - by June 21, 1989
    All other testing - by December 21, 1989
2. Medium Size Employers (11-50 employees):
    Preemployment, reasonable cause, post-casualty testing - by December 21, 1989
    Random testing - by December 21, 1989
3. Small Employers (10 or less employees):
    All types of testing - by December 21, 1990

The evidence in the EXXON VALDEZ incident indicates that the master was legally intoxicated some 8 hours after the grounding: witnesses have testified that while they smelled alcohol on the Master's breath just after the casualty, he did not appear to be intoxicated. We do not feel that random alcohol testing would be justifiable or practicable throughout the marine industry. We λ

believe the existing rules, when fully implemented, will serve to adequately deter both drug and alcohol use aboard vessels and prevent the recurrence of similar incidents.

SENATOR GORTON: Is the radar system used by tankers such as the Exxon Valdez adequate? Are we using the most technically efficient radar system available? Are we manning the radar coverage adequately?

ANSWER: The Vessel Traffic Service (VTS) in Prince William Sound consists of a radar and communications system which provides vessels, such as Exxon Valdez, with information related to navigation safety. The VTS was designed to use radar for surveillance of Valdez Harbor, Valdez Narrows and the immediate approaches to the Narrows. It is more than adequate to serve its intended purpose. The radar in use at Valdez is a standard shipboard model converted for VTS use. The manufacturer is a leader in marine radar technology and has incorporated many new ideas and advancements into the system. The Coast Guard is evaluating electronic surveillance technology for possible enhancement to the present VTS equipment. The staffing of a VTS depends mainly on traffic density and the physical geography of the port or waterway. Some ports require as many as eight persons on duty at one time while others, such as Valdez, require only one person at a time. These are radar watchstanders only; supervisors or dedicated communications watchstanders are added based on the needs of the particular port. VTS manning levels are determined using a Staffing Standard that we feel is realistic and accurate. If a VTS staffing level, as determined by the Standard, was found to be inappropriate, the Coast Guard could reassign personnel to correct the deficiency or the excess. We are confident that the existing VTSs are adequately staffed to be able to always have alert, well-rested, crews on duty.

U.S. Department
of Transportation
**United States
Coast Guard**

Commandant
United States Coast Guard

Washington, D.C. **20593-0001**
Staff Symbol:
Phone:

G-CC/104
366-4280

OCT 13 1989

5730

The Honorable Ernest F. Hollings
Chairman, Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510-6125

Dear Mr. Chairman:

The attached Questions and Answers for the Record of the Senate Committee on Commerce, Science, and Transportation hearing on 6 April 1989, concerning the Oil Spill in Valdez, Alaska, submitted as per your request. All responses have been reviewed and approved, as required by the Department of Transportation and the Office of Management and Budget.

Please do not hesitate to call if I can provide further assistance.

Sincerely,

Thomas J. Schaeffer
Captain, U. S. Coast Guard
Chief, Congressional Affairs Staff
By direction of the Commandant

Enclosure: (1) Qs and As for Senator Ernest F. Hollings, 1-7
(2) Qs and As for Senator John F. Kerry, 1
(3) Qs and As for Senator Slade Gorton, 1-8

Copy: (1) Mr. Walter B. McCormick, Jr., Minority Staff Director

QUESTIONS SUBMITTED BY SENATOR HOLLINGS

Vessel Traffic System

SENATOR HOLLINGS: There seems to be some confusion over the exact role that the Coast Guard plays in directing ship traffic. Some reports indicated that the EXXON VALDEZ RECEIVED Coast Guard permission to deviate from the shipping lanes and that therefore the Coast Guard knew full well where the ship was going. Could you describe for us how the Vessel Traffic System (VTS) operates in Valdez? Do ships actually receive permission from the Coast Guard before changing lanes much the same way that aircraft must receive permission from controllers?

ANSWER: The Coast Guard vessel traffic service (VTS) in Valdez, or any other port, is an advisory service. They provide the person in charge of a vessel with information which would not normally be available without the VTS. Ships do not receive permission from the VTS before executing their intended maneuvers. They report their intentions to the VTS and are, in turn, provided with information on other vessels operating in the area, hazards to navigation, weather conditions, or anything that cannot be readily determined using the vessel's internal resources. An analogy between air traffic control and vessel traffic service would be inaccurate. Air traffic controllers direct the movements of an aircraft with specific orders for course, speed, and altitude. VTSs provide information; leaving the ultimate responsibility for control of the vessel in the hands of the master.

SENATOR HOLLINGS: Isn't it correct that the Coast Guard was in radio contact with the ship during this incident?

ANSWER: The Coast Guard vessel traffic service (VTS) in Valdez operates a voice communications network covering all of Prince William Sound and they were able to contact the EXXON VALDEZ by radio throughout the grounding incident.

SENATOR HOLLINGS: Could you provide the Committee with a transcript of the radio traffic between the ship and the Coast Guard?

ANSWER: A transcript of all voice radio traffic between the Coast Guard vessel traffic service in Valdez and participating vessels from 10:49 pm on March 23 to 12:28 am on March 24, 1989, is attached.

SENATOR HOLLINGS: Does the Coast Guard have the authority to refuse permission for a ship to leave a particular lane or course, or is their role simply advisory — with full authority to guide the ship in the hands of the captain?

ANSWER: The Coast Guard has the authority to control and supervise vessel traffic during conditions of vessel congestion, adverse weather, reduced visibility, or other hazardous circumstances; and to specify times when vessels may enter, move within or through, or depart from an area. A VTS or Captain of the Port (COTP) may direct a vessel in an emergency to slow, stop, anchor, or otherwise proceed to avoid a dangerous situation; however, the master will at all times remain responsible for the safe and prudent maneuvering of the vessel. A master may choose to disregard an order to the extent necessary to avoid endangering his vessel, persons, or property. At no time does the VTS grant or deny permission to vessels who may wish to move contrary to normal traffic routes. They acknowledge the vessel's intentions and advise if any hazards are likely to be encountered.

Hollings #1
(cont'd)

TRANSCRIPT FOR T/V EXXON VALDEZ (GROUNDING/SPILL) CHANNEL 13 VHF

FROM TIME TEXT

VESSEL 2249.31 Traffic, Exxon Valdez Potato Point outbound increasing speed.

VTC 2249.36 Traffic roger out.

VESSEL 2249.37 ... report please?

VTC 2249.38 Traffic roger out.

VESSEL 2249.40 Ice report please?

VTC 2249.45 There are numerous small pieces of ice ah from Fremantle all the way down to Glacier Island, and they had to deviate over into the north bound lane ta, for about a half an hour over.

VESSEL 2249.53 Roger that, Exxon Valdez.

VTC 2249.56 Traffic clear.

VESSEL 2324.50 Valdez Traffic ah Exxon Bata ah Valdez.

VTC 2324.54 Valdez Traffic.

VTC 2324.58 Valdez Traffic go ahead.

VESSEL 2325.01 Yes We've ah departed the pilot, disembarked the pilot excuse me, and this time are hooking up to sea speed, and ETA Naked Island 0100 over.

VTC 2325.19 Roger that sir, request an updated ice report when you get down through there over.

VESSEL 2325.24 OK I was just about to tell you that judging ah by our radar we'll probably divert from the TSS an end up in the inbound lane if there is no conflicting traffic, over.

VTC 2325.42 No reported traffic, I've got the Chevron California one hour out and the Arco Alaska is right behind them, but they're an hour out from Cape Hinchinbrook, ah how on that over?

VESSEL 2325.53 That'll be fine. Ya We may end up over in the inbound lane, outbound transit. We'll notify you when we leave the ah TSS and ah cross over Separation Zone over.

VTC 2326.07 Roger that we'll be waiting your call. Traffic out.

VESSEL 2326.10 Ok Exxon Valdez over, standing by 13 16.

Hollings - #1
Cont'd

FROM	TIME	TEXT
VESSEL	2330.45	Valdez Traffic Exxon Valdez (WHCB) over.
VTC	2330.50	Valdez Traffic over.
VESSEL	2330.54	Yeah, Present time going to alter my course to 200 and reduce speed to 12 knots to a wind my way through the ice and, Naked Island ETA might be a little out of whack but once we are clear of the ice out of Columbia Bay we'll give you another shout over.
VTC	2331.16	Roger that sir will be awaiting your call Traffic standing by.
VESSEL	2344.45	Valdez Traffic - Stalwart.
VTC	2344.51	Stalwart - Traffic.
VESSEL	2344.53	Yes was that 0100 for the Chevron California?
VTC	2345.03	I got 0015.
VESSEL	2345.07	Could you repeat that?
VTC	2345.08	They're showing 0015 for Cape Hinchinbrook.
VESSEL	2345.12	Thank you, Stalwart.
VTC	2345.13	Traffic clear.
	24 MARCH	1989
VESSEL	0017.21	Calling Valdez Traffic - Chevron California.
VTC	0017.35	Chevron California - Valdez Traffic.
VESSEL	0017.38	Chevron California to Valdez Traffic ah abeam Cape Hinchinbrook 0015, ah estimating Naked Island about 0200.
VTC	0017.53	Chevron California - Valdez Traffic ah roger. We have the Exxon Valdez outbound estimating Naked Isling, Naked Island 0100, and he should be able to give you a pretty good ice report over.
VESSEL	0018.07	Yeah Ok sounds good, we'll talk to him on his way out then. Thank you very much.
VTC	0018.11	Traffic out.
VESSEL	0026.41	Yeah Valdez Traffic, Exxon Valdez over.
VTC	0026.46	Exxon Valdez - Valdez Traffic.

Hollings - #1
Cont'd

FROM	TIME	TEXT
VESSEL	0026.55	Yeah ah Valdez back, ah we've, should be on your radar there, we've fetched up ah hard aground, north of Goose Island, off Bligh Reef, and ah evidently leaking some oil and we're gonna be here for a while and ah, if you want ah, so your notified over.
VTC	0027.44	Exxon Valdez - Valdez Traffic, roger, are you just about ah about a mile north of Bligh Reef?
VESSEL	0027.57	Yeah, that's correct.
VTC	0028.01	Roger that.
VESSEL	0028.03	Ok, we'll give you a status report, assertain the situation, over.
VTC	0028.10	Standing by.

TRANSCRIBED BY: RD1 J.A. MOORE, USCG

Radar Coverage Control

SENATOR HOLLINGS: There have been recurrent press reports about the adequacy or inadequacy of the radar coverage in the Valdez area. Some reports have indicated the Coast Guard has downgraded the radar system, others state that more accurate and better systems are operating in other ports in the world. How would you respond to these reports?

ANSWER: The radar surveillance system in Valdez was designed to cover the Port of Valdez and the Valdez Narrows; what were considered the only dangerous portions of the transit from the oil terminal to sea. The radars in Valdez are more than adequate to serve this, their intended purpose. The original radar equipment, installed in 1977, was replaced in 1984 as a part of a Coast Guard-wide standardization effort. The new hardware is, in terms of maximum power output, slightly less powerful than the previous version but is fully capable of monitoring its assigned area of coverage.

There are now close to 200 VTSs in the world, many of which have more demanding operating requirements and more sophisticated equipment suites than our system in Valdez.

SENATOR HOLLINGS: What is the extent of coverage of the radar in Valdez? Did the Coast Guard have the EXXON VALDEZ on its radar as it went off course and into the rocks?

ANSWER: The Potato Point radar was designed and positioned to provide coverage of the Valdez Narrows. Depending on atmospheric conditions, it is capable of monitoring vessels about 2 miles beyond Bligh Reef. On the night of 23-24 March, the VTS watchstander reported losing radar contact of EXXON VALDEZ less than 10 miles from Potato Point. At the time radar coverage was lost, the ship was in the proper traffic lane and on course.

SENATOR HOLLINGS: The Coast Guard has authority to license all commercial merchant marine personnel. In this capacity, the Coast Guard is required to investigate the backgrounds of personnel applying for federal maritime licenses. One of the aspects of this is, of course, criminal violations. It is known that Captain Hazelwood had a history of alcohol problems, yet he retained his license to pilot tankers. How could this have happened? Didn't the Coast Guard have a means to obtain information on Captain Hazelwood's drinking problem and his drivers license revocations?

ANSWER: There was no information in Captain Hazelwood's license file to indicate a problem existed or to prompt an examination of his record. If such information had been brought to the Coast Guard's attention, an investigation would have been conducted to evaluate his continued eligibility to hold a license.

SENATOR HOLLINGS: Captain Hazelwood apparently lied on his license renewal application when he did not indicate his criminal convictions for drunk driving, nor inform the Coast Guard of his driver's license revocations. Does the Coast Guard investigate all applicants for maritime licenses to insure that the answers given are, in fact, truthful?

ANSWER: For all original licenses, the applicant is fingerprinted, and a criminal records check is conducted through the Federal Bureau of Investigation. Records checks or similar investigations are not generally conducted for subsequent transactions unless there is a reason to believe the applicant concealed or misrepresented pertinent information. We plan to more throughly review the accuracy of the information provided by all applicants. However, while approximately twenty percent of all original applicants are now found to have a previous record of some kind, less than one percent are actionable offenses resulting in the denial of a license. We believe the incidence of actionable criminal activity of existing license holders to be equally low if not lower.

SENATOR HOLLINGS: Are applications completed and signed under penalty of perjury?

ANSWER: All applicants are asked to initial their answers to the questions on the application regarding narcotics use and prior criminal convictions. They must also sign the application certifying that all the information provided is true and acknowledging the penalty for making false, fictitious, or fraudulent statements under 18 USC 1001.

SENATOR HOLLINGS: Are Coast Guard license renewal applications the same as they are for initial applications? If not, why not?

ANSWER: The same application is used for all license transactions.

SENATOR HOLLINGS: This Committee has been very interested in expanding the National Drivers Registry. The registry is a database from which employers can obtain information about the drunk driving records of potential employees. The trucking industry, for example, has begun to access this information, as have the railroads and airlines. Are you familiar with this registry and does the Coast Guard have access to the information contained within it?

Answer: The Coast Guard does not yet have access to the National Driver Register(NDR), but legislation has been introduced which would authorize Coast Guard access. The NDR will make information regarding drunk driving convictions and other similar offenses which could affect license eligibility more readily available to the Coast Guard.

SENATOR HOLLINGS: I am very interested in the lessons that Coast Guard can draw from this spill and prevent future tragedies of this magnitude. What could the Coast Guard have done to prevent this accident and to minimize the impact of the spill?

ANSWER: The lessons learned from the EXXON VALDEZ incident will continue to grow for years. Even though the response effort will be ongoing for months, we have already identified several problem areas. The present limits of liability and funding arrangements are authorized by the Federal Water Pollution Control Act, and are inadequate for major oil spills. New legislation including adoption of the 1984 Protocols to the International Fund Convention would give the Coast Guard a better capability to deal with the resource requirements for such incidents. The Pollution Fund level at the time of the EXXON VALDEZ incident was approximately $6 million. Other lessons learned include:

(a) The coordination between local, state and federal agencies could be improved.

(b) The National Response System works well for the majority of spills. However, the National Contingency Plan should be revised to address spills of national significance such as the EXXON VALDEZ incident.

(c) The pre-planning for care of wildlife affected by spills needs to be improved.

(d) More research is needed in the areas of oil spill recovery equipment and shoreline cleanup alternatives as well as for the use of dispersants and burning.

(e) Contingency planning must be strengthened and worst-case scenarios used to address resource needs.

It is difficult to answer exactly what the Coast Guard might have done to prevent the EXXON VALDEZ spill. The Coast Guard has undertaken a series of initiatives to better answer that question including:

(a) A Vessel Traffic Services study which will update the 1973 Analysis of Port Needs;

(b) Review of pilotage authority and requirements;

(c) Review of Merchant Mariners licensing and discipline matters;

(d) Additional oil pollution research and development;

(e) Review and updating of Coast Guard contingency plans nationwide including development of procedures for spills of national significance; and

(f) Tank vessel studies including reevaluation of double bottoms and a review of the Coast Guard's tank vessel inspection program.

These and other studies will provide better answers to this question. As the cleanup progresses, additional lessons learned will likely be identified.

SENATOR HOLLINGS: Should the Coast Guard have required Alyeska to maintain more equipment and personnel on site in Valdez at all times?

ANSWER: The Coast Guard did not require Alyeska to maintain equipment for response in Prince William Sound. Those are requirements of their facility/pipeline permit as required by the State of Alaska. Questions regarding amounts of equipment and personnel should be referred to the Alaska Department of Ecology.

The only federal requirements for response equipment are related to the terminal operations. The Coast Guard requires the facility to have (or have access to) sufficient equipment to respond to spills at the terminal's dock. Alyeska had sufficient equipment to meet these requirements.

SENATOR HOLLINGS: From recent reports, the Soviet's have sent what is called the world's largest skimmer to Alaska to help with the cleanup. Reportedly, this vessel can skim 200,000 gallons of oil an hour and can store 700,000 gallons of oil before being emptied. Exxon is paying the Soviets about $15,000 per day for their services. I understand that the technology for much larger skimmers was developed in the mid-1970's. In fact, the Coast Guard purchased one (Samson equipment) which was 100 times larger than the skimmers currently being used in Alaska. Where is the skimmer the Coast Guard purchased in the mid-1970's, and why is it not in use in Alaska?

ANSWER: The system you are referring to is the Sampson Weir-Basin Skimmer. Our review shows the Sampson oil system was purchased and extensively tested by the Coast Guard. This system failed in several important criteria and lost in competition to the Open Water Oil Containment and Recovery System (OWOCRS). The Coast Guard owns 25 OWOCRSs of which six were flown to Alaska in response to the EXXON VALDEZ incident.

The project started in 1969 in a research and development effort to find an oil barrier suitable for use on the high seas. The Coast Guard awarded several concept development contracts; one of which was to Sampson Ocean Systems, Inc. in Boston, Massachusetts for a Wave-Conforming Weir-Basin System. Theirs was a weir-basin recovery unit with a pumping power system designed to recover up to 2,000 gallons per minute (gpm).

Testing of the original prototype system was satisfactory in oil recovery but deficient in several operational characteristics. Redesign for retesting included reduction of the physical size by approximately one half, thereby reducing the recovery capacity from 2,000 gpm to 1,000 gpm. Tests of the redesigned second generation prototype were conducted with oil in a tank test and without oil in ocean tests off Moorehead City, North Carolina, during the summer and fall of 1974. The weir-basin device failed to withstand the high sea state requirements due to several structural deficiencies. Although the weir device met recovery rate design, the complexity, expense, and sophisticated level of required operative training detracted from its success in recovery operations.

In 1975 the Coast Guard selected the OWOCRS developed by Offshore Devices, Inc. of Lynn Massachusetts. It is a high seas containment barrier that employs a weir skimming principle that utilizes a pumping subsystem for oil recovery. The OWOCRS was selected because of rapid deployment, compact storage, minimal design failure, minimum required level of operative training, and significantly lower price.

RSCST2.KERRY.MER.1
19 SEP 89

QUESTIONS SUBMITTED BY SENATOR KERRY
SENATE COMMERCE, SCIENCE AND TRANSPORTATION COMMITTEE

SENATOR KERRY: Would the Coast Guard please provide the committee an accurate chronology of events of what occurred on the 24th and 25th of March?

ANSWER:

MARCH 24, 1989 (FIRST DAY)

0028 Marine Safety Office (MSO) Valdez receives notification from EXXON VALDEZ reporting that the vessel was hard aground on Bligh Reef. The vessel was loaded with 1,264,155 barrels (53,094,510 gallons) of North Slope crude oil. While maneuvering to avoid glacial ice, the vessel left the tanker lanes and struck bottom on a 30-foot charted shoal on Bligh Reef. The vessel's draft fore and aft was 56 feet. Initial assessment of pollution extent and shoreline impact could not be made with any degree of accuracy due to darkness.

0030 Captain of the Port (COTP) at MSO Valdez closes the Port of Valdez to all traffic. The tug STALWART is dispatched from Alyeska Marine Terminal to assist EXXON VALDEZ.

0100 Pilot boat is made available to transport Coast Guard (CG) and Alaska Department of Environmental Conservation pollution personnel to the scene.

0105 Alaska RRT Chairman for this incident is notified.

0148 MSO Valdez contacts Air Station Kodiak requesting helicopter overflight at first light.

0206 Attempt to refloat EXXON VALDEZ at high tide unsuccessful.

0249 Pacific Area (PACAREA) Strike Team assistance requested.

0323 CG personnel now aboard EXXON VALDEZ. Tanks gauged: about 138,000 barrels (5.8 million gallons) lost from wing tanks 1, 3, 5 starboard, starboard slop tanks, and number 5 center tanks.

0330 Initial response efforts at the Port of Valdez under Alyeska's control are hampered by equipment casualties and holiday personnel shortages. As response personnel arrive at the Alyeska Terminal, however, Alyeska is unable to comply with the response timeliness provision in its own contingency plan that calls for initial response at the vessel within five hours of first notification.

Alyeska's only containment barge is tied up at Valdez Terminal, stripped for repairs. Barge was not certified by the CG to receive oil, but it could carry recovery bladders. Alaska's state contingency plan requires Alyeska to notify the state when response equipment is taken out of service. Satisfied the barge was seaworthy without repairs, Alyeska had not done so.

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Before barge could be used, pollution gear had to be loaded. Crane riggers called at 0330. By this time, CG estimates 5.8 million gallons already discharged from tanks.

0400 Stability of EXXON VALDEZ is CG's highest priority. The biggest concern is that the vessel might capsize and break up, spilling the entire 53 million gallons of oil. Word is passed to Alyeska to assemble oil transfer (lightering) equipment (six-inch hoses and fenders to transfer oil from EXXON VALDEZ to recovery vessels, bladders, or other containers).

0414 Tank vessel (T/V) EXXON BATON ROUGE contacted and is enroute to initiate oil transfer operations.

0500 CG small boat dispatched to survey the area.

0727 Alyeska Marine Terminal security helicopter aloft for overflight with CG investigator aboard. Analysis of videotape taken by the investigator showed the slick to be 1,000 feet by four miles long. Sheen extends in a southerly direction with minimal contact with the shoreline.

0951 Alaska RRT was notified and activated. Dispersants and natural resources at risk to be discussed.

1115 The Federal Aviation Administration (FAA) imposes temporary flight restriction around EXXON VALDEZ. Rate of discharge from EXXON VALDEZ is slowing. EXXON BATON ROUGE arrives at location of grounding and begins to rig fenders for coming alongside to begin oil transfer operation.

1140 H-3 helicopter overflight observes extremely heavy oil 20 to 30 feet from the side of the vessel. Calm sea is slowing the movement of the oil.

1145 COTP imposes 500-yard safety zone around grounded vessel. Notice to Mariners broadcast begins.

1200 Regional Response Team (RRT) teleconference commences. Discussion includes use of dispersants and in-situ burning. The vessel was located in dispersant use zone 2, where pre-approval of use is required. The leading edge of the spill was in zone 1.

1230 Alyeska barge arrives at Bligh Reef, seven hours after the five-hour initial response time required by Alyeska's contingency plan. Oil slick is already 1,000 feet wide now and four to five miles long. The barge arrives with two skimmers in tow, two 1,000 gallon bladders, and 8,000 feet of containment boom for a spill of 10 million gallons. The two on-scene skimmers begin recovering oil near the EXXON VALDEZ.

1310 MSO Valdez estimates quantity released is now 250,000 barrels (10.5 million gallons).

1510 On-Scene Coordinator (OSC) grants permission for dispersant test on leading edge of sheen. Alyeska has 65 drums of dispersant and one helo mounted spray unit available for 50 gallon application. The staging area is 30 miles from the storage facility.

1645 CG 32323 underway with State of Alaska Governor Cowper and assistants on-board.

1700 CG 32323 drops off Governor Cowper and assistants. They board EXXON VALDEZ.

1800 Dispersant trial application is conducted with less than satisfactory results, due to lack of mixing energy. Use of dispersants was deemed inappropriate at this time.

1820 PACAREA Strike Team members arrive in Cordova, Alaska.

2010 EXXON BATON ROUGE alongside EXXON VALDEZ, port-to-port.

2030 Contract drivers arrive on scene.

2154 EXXON BATON ROUGE made fast alongside EXXON VALDEZ.

2215 First oil transfer hose connected.

2338 Second oil transfer hose connected between the two vessels.

MARCH 25, 1989 (SECOND DAY)

0015 Tug JEFFREY FOSS on scene with 30,000-barrel tank barge to receive recovered oil.

0736 Oil transfer operations begin, with cargo transferred to EXXON BATON ROUGE. The ship's cargo piping system was used.

0745 OSC reports that loss of additional oil has ceased.

0750 Commercial divers complete underwater hull survey showing holes in 11 tanks. EXXON VALDEZ had been grounded from the number two tank aft to the number four tank. The vessel's designer advises CG that ship is not floatable and that a major salvage operation will be required. Meanwhile, oil transfer to the EXXON BATON ROUGE continues at a rate of 10,000 to 12,000 gallons per hour. Water replaces cargo to maintain ballast.

0830 Alyeska pipeline representative advises that pipeline flow has been slowed to 768,000 barrels per day. At this rate, Alyeska has seven days of storage capacity.

0833 USCGC RUSH is ordered to put CG personnel aboard T/V ORIENTAL CRANE and to proceed with all haste to EXXON VALDEZ site and establish a command and control platform. USCGC SEDGE is ordered to Prince William Sound to assist OSC.

0845 Oil transfer operations suspended as on-scene crews reevaluate the situation. Pumping has resulted in additional discharge. It is suspected that loop cargo transfer system has been damaged.

0930 Ms. Alice Berkner of International Bird Rescue and Research Center arrives in Valdez to set up facilities for treating oiled animals.

0945 On-Scene RRT agency representatives hold a meeting at MSO Valdez with teleconference following at 1110. Dispersant trial application planned utilizing C-130 cargo aircraft. Exxon Shipping Company assumes management of spill and financial responsibility.

1100 EXXON VALDEZ surrounded by containment boom. USCGC RUSH on scene to assume air traffic control functions.

1145 CG Commander of the Pacific Area (PACAREA) requests AIREYE surveillance from the Atlantic Area Commander.

1200 Second hull survey conducted with video cameras by dive team.

1230 Some oil released as transfer operations begin again. Oil transfer had been delayed due to piping damage.

1330 FAA in Anchorage is mobilizing air traffic control team to set up temporary control tower (seven personnel) at Valdez Airport.

1900 RADM Nelson, Commander Seventeenth CG District, arrives on scene.

1930 Clean-up crews report 1,200 barrels of oil recovered.

2000 Dispersant trial applications conducted by C-130 with inconclusive results. Another test to be conducted on March 26 under optimal light conditions.

2010 EXXON VALDEZ had transferred 11,000 barrels of oil to EXXON BATON ROUGE before suspending oil transfer operations. Second test of ships cargo transfer system will be conducted on the morning of March 26.

2015 Exxon completes initial mapping of the area to determine the extent of the oil spread and impact. Bird rescue operation instituted by Exxon.

2045 Burn test conducted near Goose Island with approximately 100 square feet of tar left as a residue. It is estimated that 15,000 gallons of oil were consumed.

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QUESTIONS SUBMITTED BY SENATOR GORTON
SENATE COMMERCE, SCIENCE AND TRANSPORTATION COMMITTEE

SENATOR GORTON: I understand that the Coast Guard is responsible for overseeing operations of the federal government and Exxon. After a spill, what criteria does the Coast Guard use in determining if the federal government should become involved in the clean-up operation?

ANSWER: Under the National Contingency Plan (NCP) (33 CFR 300), the On-Scene Coordinator (OSC) is responsible for ensuring a proper response by continuously assessing and monitoring all response action, and by "federalizing" a spill if the response activities are unsatisfactory. In the context of the Clean Water Act (CWA) and Executive Order 11735, "federalize" is defined as the use of federal funds for cleanup under the direction of the federal OSC. If a response is not being carried out properly, the OSC will notify the party responsible for the spill of its liability for costs associated with the removal under CWA and "federalize" the response and cleanup. Lacking a finding that a responsible party is not conducting a proper cleanup, the NCP envisages a cleanup conducted and paid for by the responsible party.

The OSC is the focal point in effectively coordinating the response to an oil spill. The OSC pulls together the various threads of expertise and provides oversight direction for the use of manpower, equipment, and resources. In general, the OSC classifies the size of the discharge; investigates the source, type, and quantity of the discharge; and monitors the response action to determine if the discharger is carrying out the response properly. If, in the opinion of the OSC, the spiller is not responding as he should, "federalization" occurs.

"Federalization" also will occur if the responsible party is unknown or simply is not willing to accept responsibility for the response. When the OSC assumes responsibility, he will supervise the response to its completion, and the responsible party will be billed.

SENATOR GORTON: Did the radar on the vessel traffic control system cover the area where the ship strayed off course and grounded?

ANSWER: Depending on atmospheric conditions, the vessel traffic service (VTS) radar at Potato Point is capable of monitoring vessels about 2 miles beyond Bligh Reef. On the night of 23-24 March, the VTS watchstander reported losing radar contact of EXXON VALDEZ less than 10 miles from Potato Point. At the time radar coverage was lost, the ship was in the proper traffic lane and on course.

SENATOR GORTON: To what extent is the Coast Guard involved in the contingency plan for containing oil tanker spills? Do you feel you need more involvement in such plans? Did you actually approve the contingency plan? If so, why did you determine that it was adequate? Do you update contingency plans based upon knowledge learned from fighting other oil spills?

Answer. To meet Coast Guard's responsibility for prevention of and response to discharges of oil and hazardous substances in the marine environment, each Coast Guard Captain of the Port (COTP) develops and maintains local contingency plans for emergencies that may occur in their zone. These plans are intended to coordinate local/regional resources, focus these resources on a rapid response effort, identify sensitive areas, inventory existing equipment/local expertise and provide for initial response with available equipment. The COTP uses his plan in conjunction with facility and other contingency plans. The plans are constantly subject to review and updating as additional information and "lessons learned" are gathered from periodic exercises or actual implementation of the plan.

In Valdez, the Coast Guard plan was intended to provide notification and coordination of a spill, and guidance to Coast Guard personnel during spill response. That plan was successful. The Alyeska Pipeline Service Company's Oil Spill Contingency Plan had two parts, one focusing on the terminal/facility area, and the second on Prince William Sound. Their plan was designed to provide notification of a spill, determine the location and extent of the spill, and provide adequate response. The Alyeska plan (based on a maximum spill of 74,000 barrels) provided notification, identification and location of the spill, but was wholly inadequate to respond to the 260,000 barrel spill. The Alyeska plan was required, and approved, by the State of Alaska. The Coast Guard did approve Alyeska's operations manual which addressed spills in the terminal's dock area and around vessels moored there. The manual was approved because the terminal had sufficient equipment for those spills. The Coast Guard did not approve their contingency plan for spills in Prince William Sound.

Currently, in preparation for a report to the President on the status of contingency planning in the United States, all 48 Coast Guard COTPs are reviewing their local contingency plans to assess their capability to insure an adequate response for "worst case" oil spills. Additionally, the Coast Guard has commented on legislation that would require contingency plans for vessels and facilities as well as the review and exercise of those plans.

SENATOR GORTON: Should a local marine traffic pilot who is familiar with the area be required to stay on a ship until it reaches open ocean?

Answer: Vessels are required to be under the direction and control of a licensed pilot when they are operating on pilotage waters. Coastwise seagoing vessels may meet this requirement by employing the services of a local State pilot, an independent federally licensed pilot, or by having a member of the crew who holds a federal pilot's license for the particular route being transited.

Although by statutory definition pilotage waters extend out to the limit of the territorial sea, in many areas of the country conditions are such that it is neither necessary nor practical to require a pilot beyond some other point shoreward of the open ocean.

SENATOR GORTON: I believe that tug boat escorts are required in Washington State waters; why are they not required in Prince William Sound? Wouldn't this type of escort be useful in steering tankers away from danger or help control a spill? Has that policy changed in the last 10 days since the spill ?

ANSWER: Under Federal regulations tank vessels greater than 125,000 deadweight tons are prohibited from entering Washington state waters. Under Washington state law, tank vessels less than 125,000 deadweight entering state waters are required to have tugboat escorts. Escort tugs are required to have an aggregate shaft horsepower equivalent to five percent of the deadweight tonnage of the tanker they escort.

In Alaska, due to a restricted navigation area and 6 knot transit speeds, tug escorts are required for loaded tank vessels of 20,000 deadweight tons or more transiting the Valdez Narrows. Similar tug escort requirements are not considered necessary or practical for vessels transiting the open waters of Prince William Sound. The Sound is a relatively open navigation area where tankers proceed at speeds approaching 15 knots. Tugs, which are designed for power not speed, are usually not designed or built to operate at speeds greater than 12 knots. Because of their speed differential, tugs would hinder tankers transiting the Sound and hence, they would be of no assistance in steering tankers away from danger because they would be following rather than leading tankers. Tugs might be useful in helping to control a spill, depending on the circumstances, provided their crews were trained for oil spill response and sufficient oil spill response equipment were available. Since the EXXON VALDEZ grounding, the state of Alaska, under a Governor's Emergency Order, has required that two tugs escort vessels transiting Prince William Sound inside Cape Hinchinbrook. These tugs are also supposed to assist in oil spill response if necessary.

SENATOR GORTON: What is the Coast Guard's assessment of the state of the oil tanker fleet traveling to and from the Port of Valdez?

ANSWER: Ninety percent of these vessels are U.S. flag tankers. Thirty percent of these U.S. tankers are fitted with double bottoms and/or protectively located segregated ballast. Our records suggest that vessels transiting Alaskan waters may be requiring more frequent structural repairs than vessels in other service. The data base is rather limited and we have been working with industry and the American Bureau of Shipping to further develop it so that we can verify whether a problem exists and, if so, identify the causes.

SENATOR GORTON: Does the Coast Guard have any responsibility to Canada to contact them immediately so that they might prepare for effects of such spills?

ANSWER: Under the U.S.-Canada Joint Marine Pollution Contingency Plan (JCP), any oil spill occurring in the U.S. that affects, or threatens to affect, Canada shall be reported to that country without delay. Reporting points for both countries have been identified in the JCP for the five maritime boundary waters along the common border. Both nations jointly develop appropriate measures of preparedness and systems for the discovery and reporting of pollution incidents within the waters that are common to both nations. In this plan, each nation binds itself to institute prompt measures to restrict the further spread of oil and other noxious substances, and to provide adequate resources to respond to a pollution incident.

SENATOR GORTON: Did the person manning the radar continue to track the ship?

Answer: The VTS Prince William Sound surveillance system was designed to focus on Valdez Harbor and the one way ship traffic in the Valdez narrows. Normal VTS procedures are to continue tracking the ships until radar contact is lost as they transit from the Port of Valdez, through the Narrows past Potato Point, and through Valdez Arm to the Bligh Reef area. Under good weather conditions, the Potato Point radar will allow surveillance to Bligh Reef, 13 miles away. On the night of the spill, the person on watch monitored the Exxon Valdez until contact was lost somewhere in the Valdez Arm ... estimated less that 10 miles past Potato Point. The ship grounded on Bligh Reef.